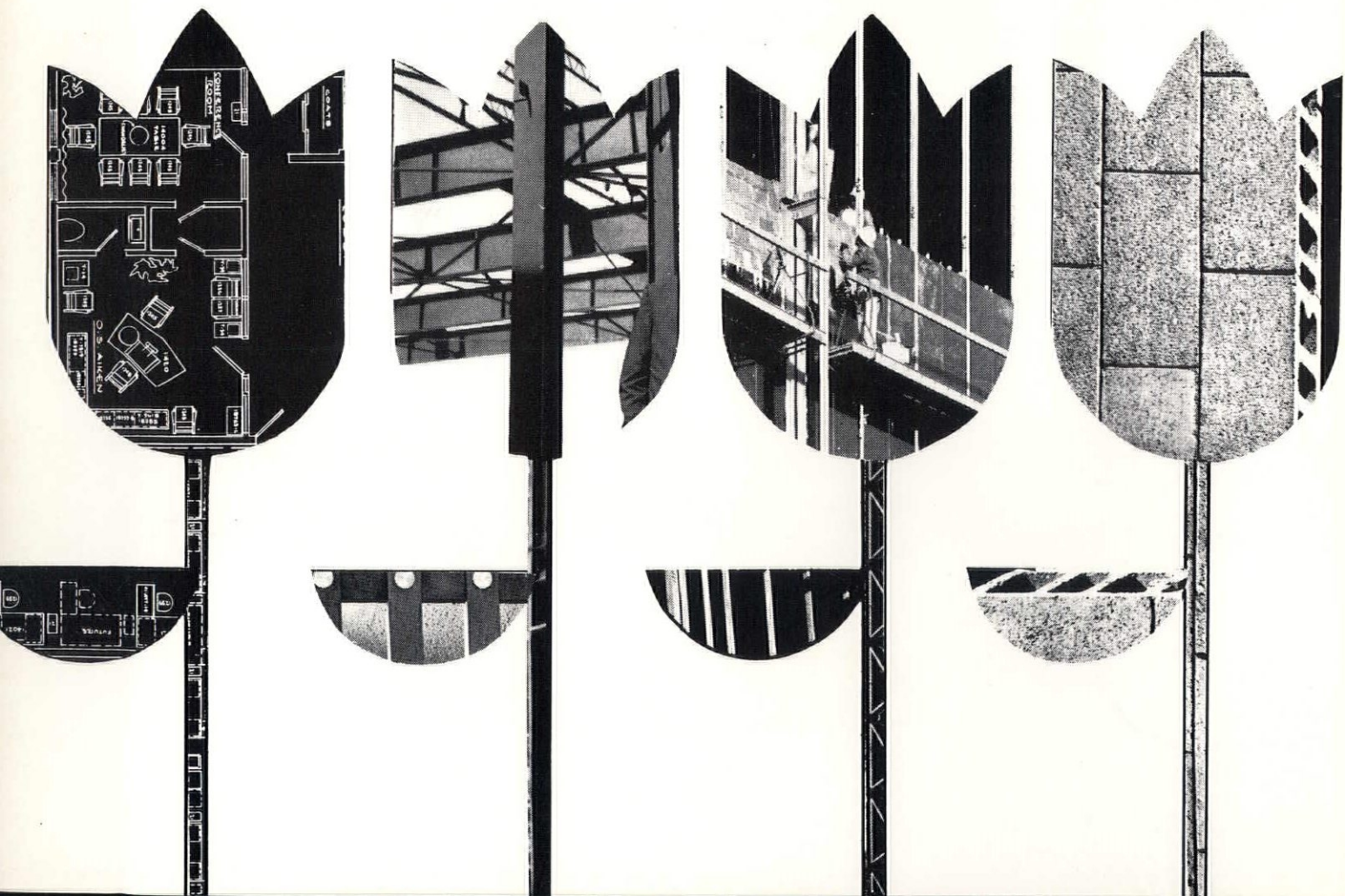


# architecture / construction *symposia*

may, 1968

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Shopping Mall, Longmont. Architect: Keith Ames, Masonry Contractor: Larry Hought.

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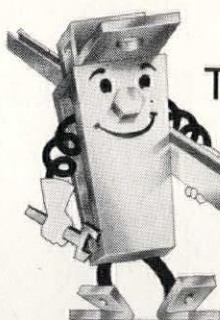
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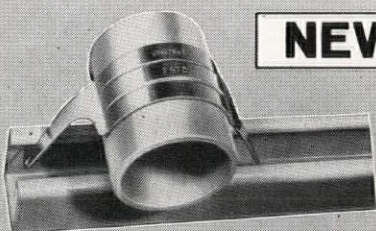
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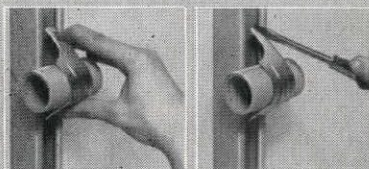
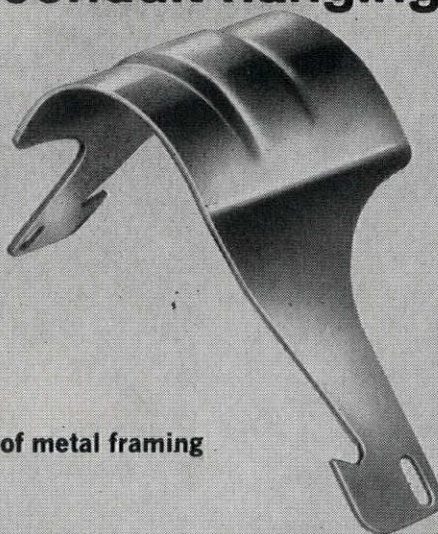
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VOLUME 2

NUMBER 12

MAY, 1968

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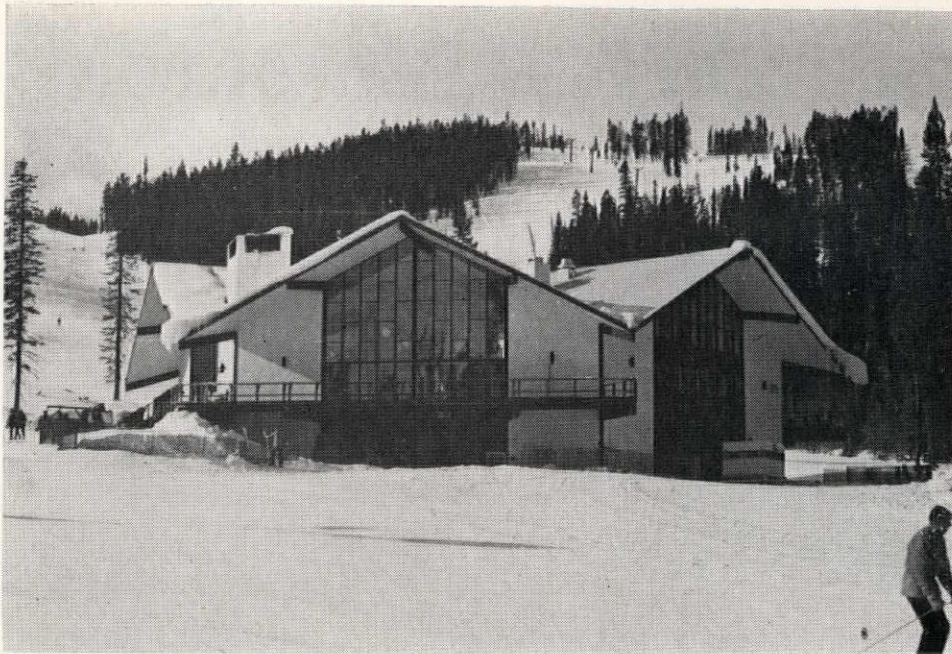
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The Polo Club apartments, one of Denver's most modern high rise units, were almost completed with one very important problem unsolved. The underground garage with a solid concrete top of 60,000 square feet was an eyesore. Covering this large an area with a foot of soil with its tremendous weight was out of the question.

Mr. Mel Rich was called in for consultation and after weeks of working with the engineers came up with the solution of sodding this large concrete slab with Scotts Windsor sod and then backed up his confidence by giving a full guarantee.

Today, two years later, the grounds of the Polo Club are a beautiful expanse of luxurious green grass with full landscaping and a golf course. It is a first for Colorado.

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an example of how

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opens up a new  
era of expression for  
architects/engineers in  
meeting critical light  
diffusion requirements

For proper light diffusion, certain dimensions were required in the ribs, forming the 450-window roof of the new Boettcher Conservatory of Denver's Botanic Gardens. At the same time, the roof had to be light in weight and create a pleasing visual experience. Idealite lightweight concrete was the answer. It allowed the architect and structural engineer exciting creative latitudes, while meeting the critical job specifications. The required light diffusion was attained with a minimum of weight and the reinforced concrete gave the graceful roof the strength and durability needed to achieve the 50-foot high curves. In addition, the concrete surfaces inside the man-made humid, tropical atmosphere will require no maintenance. If you are considering the construction of a building, investigate the advantages of Idealite concrete. It's strong, yet light in weight, 30% less than normal concrete. It offers superior insulating and acoustical properties as well as low absorption and low shrinkage.

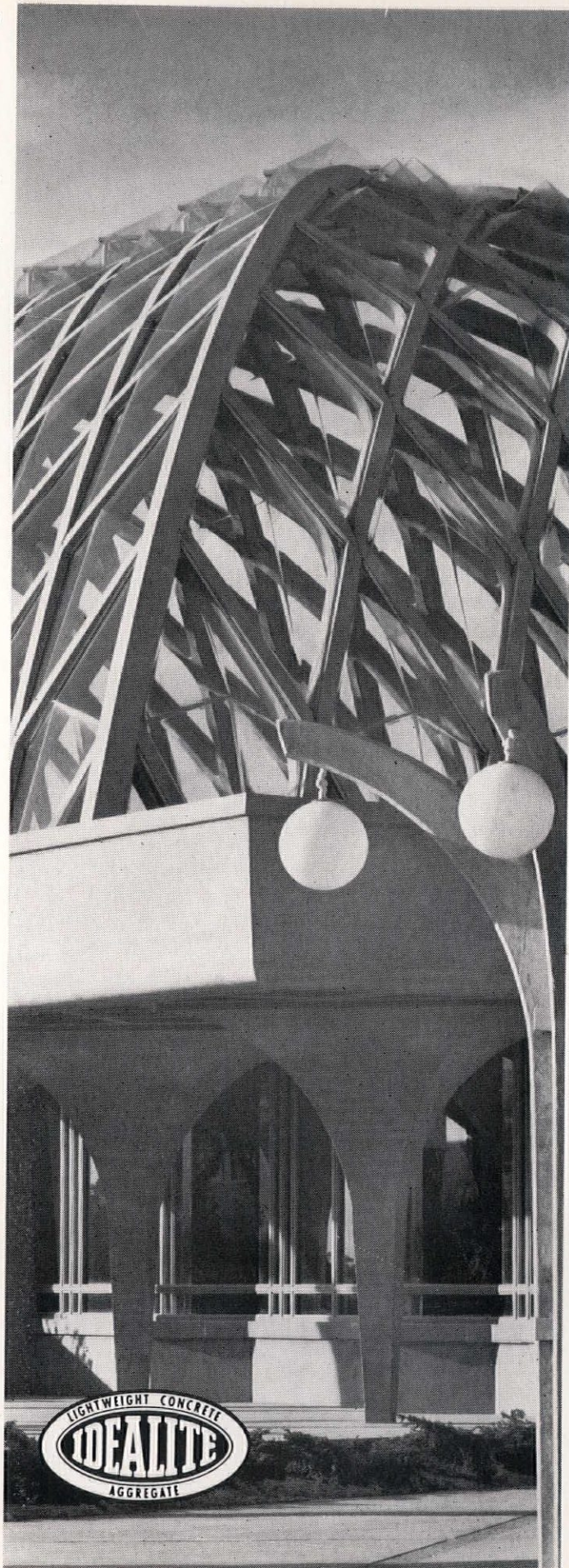
IDEALITE lightweight concrete makes possible buildings that are higher — spans that are wider — designs that are handsomer.

*Victor Hornbein and Edward D. White, Jr., Architects, Denver*

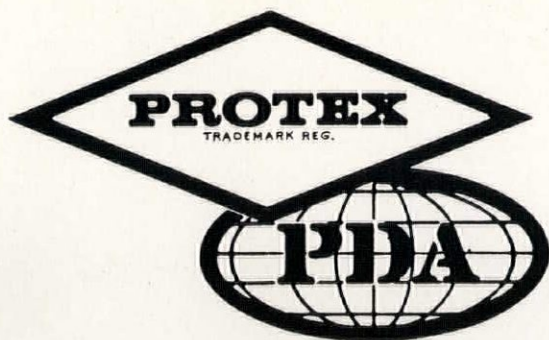
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last  
word:

Sole standard bearer from the Symposia region in the finals of the CEC sponsored 1968 Engineering Excellence Awards Competition is the New Water Resource Plan for the Great Plains, USA—a multi-purpose, six state irrigation and power project designed by R. W. Beck and Associates, Consulting Engineers of Denver, Colorado.

The G. A. Talbert bonding and insurance firm of Denver, which deals primarily with the construction industry, has established a \$500.00 scholarship fund for architectural engineering majors in the College of Engineering, Colorado University. The first Construction Scholarship has been awarded this spring . . . divided between senior students Gerry Cole and Donald List.

Twenty two members of the Colorado Contractors Association, Inc. are eligible for Safety Certification from the national organization (AGC). "The accreditation certificates are awarded annually to contractor members who carry on an acceptable safety program," announced Joe Lamb, CCA Safety Committee Chairman. He concluded—"Having over one-third of our Chapter membership eligible for safety certification from the AGC emphasizes the importance Colorado contractors place on the safety of their employees."



The joint meeting of the Producers' Council and the Construction Specification Institute in Denver—(April 3) was devoted to the plans, specifications and construction for the future of the Denver Broncos. The film and player presentation was well received by a large turnout of both PC and CSI members.

Two summer courses in basic engineering designed for high school graduates, industrial personnel and college students will be offered at the Colorado School of Mines. The six week sessions begin June 10th and August 5 and Registration must be made at least 30 days prior to the sessions. For further info—contact the Basic Engineering Department, Colorado School of Mines, Golden 80401.

Robert M. Wallen has joined the sales staff of Zonolite Division, W. R. Grace & Co. and will represent the firm out of its Denver, Colorado sales office and plant. Wallen has been with prominent Denver area building material dealers since 1963, and will service architects, contractors, and dealers on Zonolite's line of insulation and fire protection products.

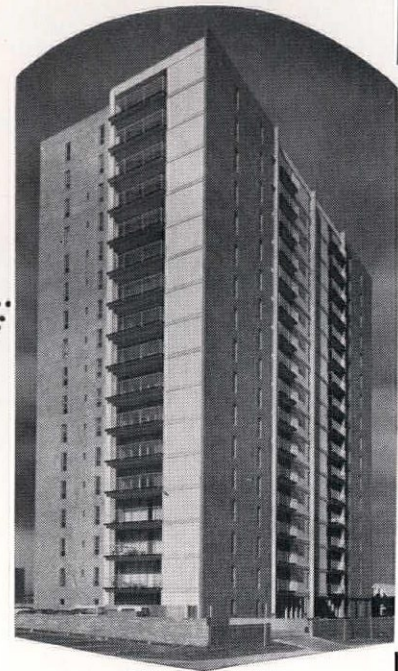
The Rocky Mountain Section of the Illuminating Engineering Society, and the Public Service Company of Colorado have donated a 12-sided integrating sphere to the illumination laboratory at the University of Colorado . . . it will be used by students in the architectural-engineering sequence.

The Slate is IN! New officers for the Denver Chapter/CSI were voted into office in record time at the April 3 meeting. Taking over the helm for the year 1968-69 are Oluf Nielsen, President; Larry Bourn, First Vice President; Myles (Tony) Murray, Second V. P.; Keith Bell, Treasurer and Directors: Art Bush and Dick Lehman. Automatically retained are Directors Frank Shutts and Tom Keeton.

## IDEAS

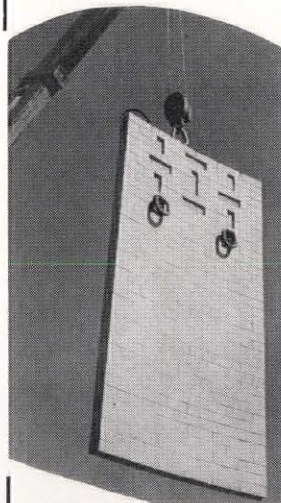
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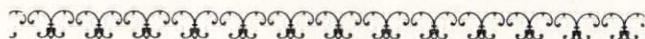
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Working on the committee for a proposed new CEC Guide for Professional Conduct is John Bunts of Colorado Springs—the revised report of the Ethical Practices Committee has been mailed to the membership prior to the 12th Annual Convention of the Consulting Engineers Council scheduled for May 6-9 in NYC.

New Mexico Spex, newsletter of the Albuquerque Chapter, CSI, is plotting a "new look" for further issues. New Editor, Earl Prinz, has announced that contributions to the bulletin from the membership are wanted and welcomed. Deadline: 1st of the month.—Symposia wishes Editor Prinz and the CSI Albuquerque Chapter all the best in this "bright new idea" for New Mexico Spex.

Stewart Sorey, Architect, formerly with the firm of Bourn and Dulaney has accepted a new position. He will serve as Staff Architect for the Denver Urban Renewal Authority.

William A. Clevenger, managing partner in Denver for Woodward-Clyde and Associates has announced the appointment of Harold W. Kirchen as Chief Engineering geologist of the Denver office of the engineering and geologic Consulting firm.

On May 8th, the Host Chapter (Denver) for the CSI/12 will make final assignments and preparations. If Denver CSI members have not as yet received jobs—VOLUNTEER—as Editor Barr noted in the April "Scope". . . "Jim Noone has announced that what they need now is 'warm bodies'—so nearly all of us can pass the preliminary screening."

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# SOLID VINYL RUCORail

THE QUALITY HANDRAIL

DESIGNER'S GUIDE



A.I.A. File Number 14-D-4

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Designer: Wencelous Sarmiento, Bank Bldg. and Equip. Co., St. Louis, Mo.



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"Autohaus" Northbrook, Ill.  
Architect: Charles Martini Assoc., Chicago, Ill.


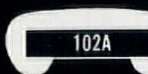
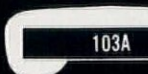



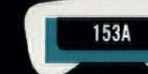
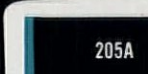






Country Music "Hall of Fame", Nashville, Tenn.  
Designer/Gen'l Contractor: W. B. Cambron, Nashville, Tenn.



Carteret Savings & Loan Association, Newark, N. J.  
Architect: Flatt & Poole, Bloomfield, N. J.

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 <b>151A</b> Fits 1" x 1/2" Channel or Flat Bar	 <b>152</b> Fits 1 1/4" x 1/2" Channel or Flat Bar	 <b>153A</b> Fits 1 1/2" x 1/2" Channel or Flat Bar	 <b>205A</b> Fits 1" x 2" Tube or Channel
 <b>200A</b> Fits 1" x 1" Tube or Solid Bar	 <b>260A</b> 1/8" Wall 3/4" ID 45° bevel Fits 1 1/2" I.D. Pipe	 <b>250A</b> 1/8" Wall 3/8" ID 45° bevel Fits 1 1/4" I.D. Pipe	 <b>255A</b> 1/4" Wall 1" ID Fits 1 1/4" I.D. Pipe

## design considerations

RUCORAIL profiles have been designed to fit most standard metal railings. (See chart at left). It may be used on long straight runs and on curves. However, vinyl has its bending limits just like steel or any other material, and the designer must take this into consideration when using it on sharp curves. While radius turns are desirable because they look modern, they must be properly designed for easier installations.

**FLAT RETURN** — The correct minimum (180°) flat return on which vinyl handrail can be mounted successfully is arrived at by using the following formula: TWO TIMES THE WIDTH OF STEEL EQUALS INSIDE RADIUS [2 (ws) = i r] (Example — Steel being used is 2" by 3/8" flat bar. Using the above formula, we have 2" x 2" (flat bar width) = 4" inside radius. When you scribe a 4" radius you will develop an 8" measurement between the inside parallel sides of the steel).

**SWEEPING RETURN** — If the designer feels that a flat return is too large for his requirements, then he might want



# SOLID VINYL RUCORAIL

## THE QUALITY HANDRAIL

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BLUE

WOODGRAIN

FAIR  
GREEN

ANTIQUE  
SILVER



Fowler Bros. Co., Knoxville, Tenn.  
Architects: Painter-Weeks & McCarty, Knoxville, Tenn.

to consider a 180° sweeping return. The correct minimum 180° sweeping return is arrived at by using the following rule: **ONE TIMES THE WIDTH OF STEEL EQUALS THE INSIDE RADIUS** ( $1 \text{ (ws)} = 1 \text{ (r)}$ ) (Example: Assume the material used is 2" by 3/8" flat bar. Using the above formula, we have  $1 \times 2" \text{ (flat bar width)} = 2" \text{ inside radius}$ ). When scribing a 2" radius you will develop a 4" measurement between inside parallel sides of the steel. However, be sure that no point of this return is on a level plane with itself. All of these are minimum figures; the larger the turn, the easier the installation.

**90° TURNS** — There are two types of 90° turns—radius and right angle. The radius turn is the most desirable since it requires no special cutting or welding. Experience has shown that poor workmanship develops with 90° right angle turns due to improper cutting and welding of the vinyl handrail. When using a 90° radius turn, apply the same formula that is used on the 180° flat return.

**RETURN-TO-WALL** — Another important item is the return-to-the-wall section

of a wall handrail. When designing a wall rail, be sure to leave the railing 1/2" clear and parallel to the wall at the end of the return section. This will allow space to weld an **end cap** into position. All return-to-the-wall handrails, should have welded **end caps** to guarantee that the vinyl remains in a fixed position. Failure to weld an end cap at this return will result in a poor installation.

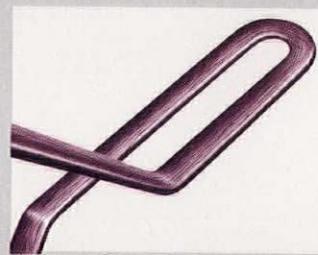
### end cap material



Rail design can be enhanced further with RUCORAIL **End Caps**. Many decorative color combinations are possible by welding an end cap of a contrasting color to the rail. For example, gold railings can have a black cap; black railings a white

cap, or whatever color combinations might best blend with surrounding decor or suits the individual taste. **End caps** fit all standard RUCORAIL Profiles, and are available in all standard RUCORAIL colors.

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### rucorail installation is simple



RUCORAIL may be used indoors or outdoors, on metal or wood supports in accordance with specified sizes. A complete instruction manual is available for installers and architects upon request.

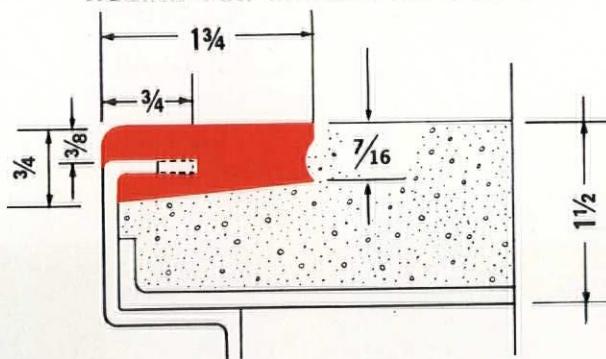
**MAINTENANCE** — RUCORAIL requires no special maintenance. Simply wipe clean with moist cloth.

**PACKAGING** — RUCORAIL profiles are available in standard 100-foot and 25-foot rolls, in the assortment of colors shown above.

**DESIGN ASSISTANCE** — If you need assistance in your design, an experienced RUCORAIL specialist will be glad to help you. Call him today without obligation.



## NEW <sup>T.M.</sup> Pantred<sup>®</sup> SOLID VINYL NOSING FOR METAL PAN STAIRS



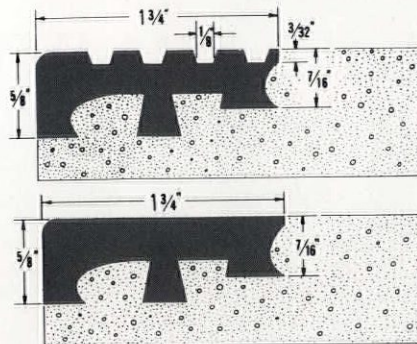
PANTRED vinyl nosing is a new design which provides architectural designers, builders and contractors with an opportunity to save costs on stair installations while providing safety, beauty, style and color . . . plus the economy of a maintenance-free, durable product. PANTRED is installed by simply positioning it on the forward lipped edge of a metal pan stair. No screws, anchors or welding are required to hold it in position. It is self-positioning, self-leveling and self-supporting. To complete the stair, the contractor pours in the cement filler, and after the cement has hardened any cement splashed on PANTRED can be brushed away and wiped clean with a damp cloth or sponge. (Note: Cement does not adhere to PANTRED vinyl stair nosing, thereby eliminating costly cleanup usually associated with other type stair nosings.)

**Standard Colors:** Black, Red, Safety Yellow. Color matching services available.

**Surfaces:** Ridged (Model 304) or Smooth (Model 303).

**Lengths:** Available in standard 8 ft. lengths. Custom lengths on request.

## RUCOTRED<sup>®</sup> T.M. SOLID VINYL STAIR NOSING



RUCOTRED is a one-piece, tough solid vinyl nosing that adds safety and "cushion" to the concrete or terrazzo stair step . . . and matches it for wear. Flowing colors accentuate the stair edge, prevents missteps and accidents. RUCOTRED resists the rigors of cold, heat, rain, grime or grit, and can be used both indoors and outdoors. It protects the staircase: heavy objects and traffic can't chew or chip it. RUCOTRED is simple to install, and it will outlast a terrazzo or concrete edge.

**Standard Color:** Black, Red, Safety Yellow.  
Color matching service available.

**Surfaces:** Ridged (Model 302) or Smooth (Model 301)

**Lengths:** 8 ft. lengths. Easily cut to size with power or hand saw.  
Custom lengths on request.

## RUCOPIPE<sup>®</sup> T.M. safety-rail

Wherever "safety" is of prime importance — RUCOPIPE Safety-Rail is the ideal covering for new and existing pipe railings that are erected to provide protection in dangerous working areas. This tough vinyl pipe covering is available in brilliant "safety yellow" and provides maximum visible warning to personnel working in dangerous areas. Installation is simple and maintenance is no problem — just wipe clean with a damp cloth. Eliminates expensive and tiresome repainting.

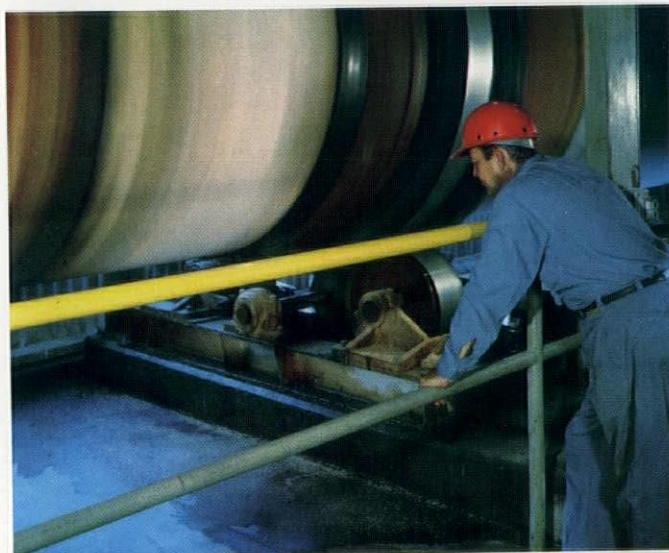
### SPECIFICATIONS

Size: Fits standard 1 1/4" and 1 1/2" I.D. pipe.

Lengths: Available in 8 ft. lengths. Custom lengths on request.

Colors: Brilliant Safety Yellow.

**NOTE:** Standard RUCOPIPE coverings are available in various sizes and colors. (See Profiles 250A, 255A, 260A on page 2). They are ideal to beautify pipe railings and to eliminate painting and future maintenance. Another good use — pipe identification. Some ideal applications include: boat railings, stairs, cafeteria aisles, personnel traffic guides and a host of other uses. Available in 25 ft. and 50 ft. lengths and in standard colors.



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# elevation

Denver has the pleasure and the privilege of playing host for the 12th Annual Convention of the Construction Specifications Institute May 27, 28, 29. Approximately 2500 members, guests, and their families will gather at the Hilton Hotel and the Denver Auditorium Arena to assess the impact and potential of automation, data storage and retrieval on specification writing.

Coupled with the interest and timeliness of the technical program of the convention, interest in coming to Denver and Colorado promises to make this convention the largest in the history of the Institute. The Denver Chapter of CSI has planned a series of events for the lighter times during the convention which will show off the famous hospitality and natural beauties of the Denver area. A post-convention trip to Mesa Verde, Durango and Silverton will provide the delegates and their families and guests an insight into the early history of our area and the glories of our mountains. In addition, a comprehensive exhibition of construction products and equipment will present the newest and latest developments to the convention delegates and guests. All in all, this convention promises to be a memorable one for all concerned.

CSI is a national technical society devoted exclusively to the improvement of construction specifications and specification techniques. Its membership of over 10,000 is comprised of architects, engineers, contractors, subcontractors, construction material manufacturers and distributors. Its technical documents on specification techniques, the Format for specifications, Spec-Data, combine the widest technical knowledge and experience with the broad base of representation of the construction industry to provide both the writer and the user of construction specifications with authoritative data with which to meet the rapidly expanding and specialized techniques of construction. It is the only organization which embraces all of the skills within the construction industry working in concert to put the best technical information into use for the benefit of the entire industry.

As construction practices and techniques advance and become more and more specialized, then it is essential that the writer and user of specifications have easy and ready access to the vast array of materials and products available to satisfy the design criteria. He must also be able to use his skills and time creatively in the selection and application of these materials and in the oftentimes complex coordination of all of the parts of the project into a complete and integrated whole. The electronic "hardware" is available; the challenge is to develop techniques for the storage and retrieval of technical data through the use of this "hardware," and to simplify the process of collection, organization, and reproduction of this data—again by faster, surer, and more efficient means than the human brain is capable. The challenge is to separate the creative process from the mechanical process: to employ the machinery already at our disposal for the mechanical functions, thus freeing the human brain for the creative and imaginative functions which it alone can contribute.

Thus the stage is set for a stimulating and rewarding convention. We in Denver look forward eagerly to our pleasant duties as host and to the opportunity of greeting the delegates, their families and guests.



Henry B. Baume, F. C. S. I.  
Past President  
Construction Specifications Institute



## **casper clinic building**

### **casper, wyoming**

*Information and graphics: Henry Therkildsen, A.I.A.*

Approximately three years ago, a group of ten physicians associated with the Casper Clinic, became interested in creating a pleasant environment in which to practice. Each desired to continue his individual practice in self-contained suites but found many advantages in becoming tenant investors. Thus, the planning was formulated for construction of a new Casper Clinic Building. Land was purchased on East Third Street between Jefferson and McKinley Streets for convenience to Natrona County Memorial Hospital, located two blocks to the east. During January of 1965, Henry Therkildsen, A.I.A., was selected as Architect for the project. The design program required an extremely functional no-nonsense scheme, within which a steady flow of patients could be directed to appropriate individual suites in the most efficient and least disturbing pattern. The directness of a good working plan required integration to a pleasant psychological environment.

Before starting design studies, the architect, the mechanical engineer, and a representative physician made a tour of the newest medical clinics located within the western region, in order to examine similar facilities and determine any deficiencies to be avoided in future design and planning development. Extensive information was gathered from this trip.

Because of the adjacent area, consideration was given to obtaining a domestic character in the appearance of the

building. Extensive usage of natural materials such as stone and rough-split cedar shakes accentuate the western style of architecture.

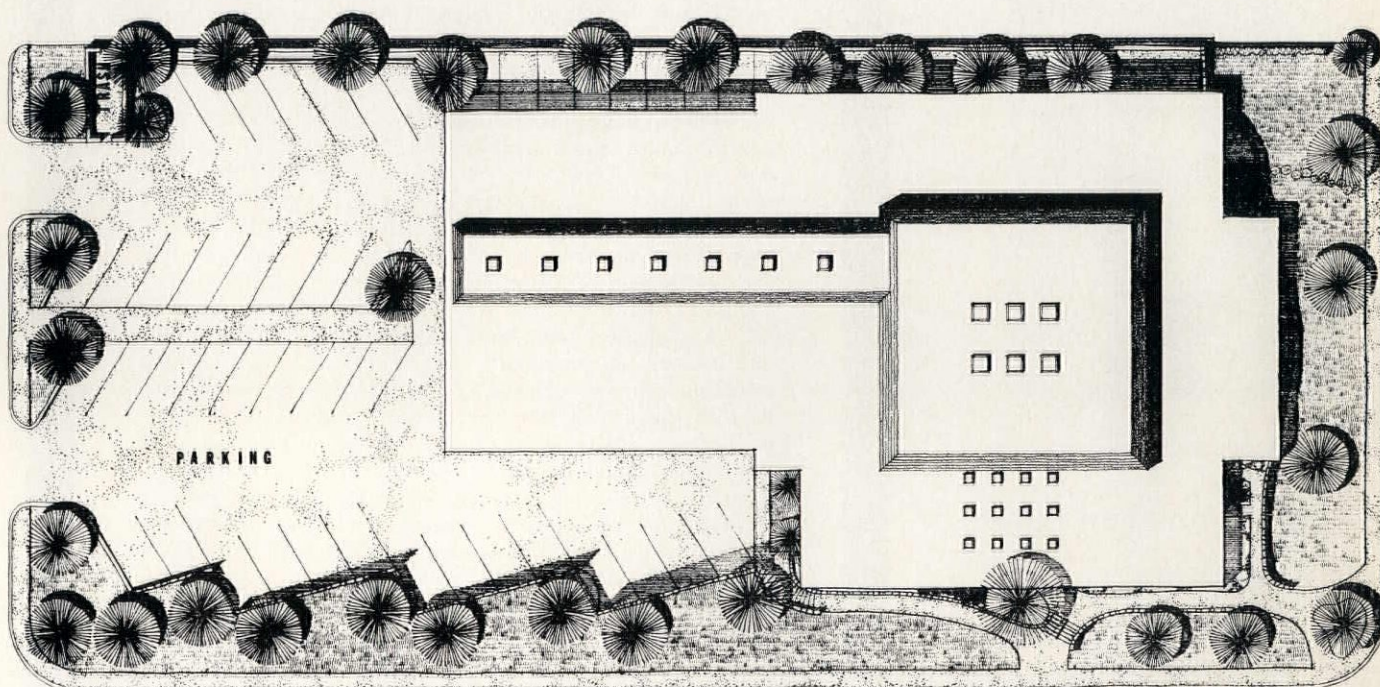
The sloping character of the land presented an ideal solution to the problem of off-street parking, by providing space below the west wing of the building for such parking. Off-street spaces have been provided for approximately 40 cars.

Provisions have been included for abundant landscaping, within the building as well as at the exterior perimeter. The parking area is concealed from the street by utilizing landscaping and angular-shaped natural stone retaining walls.

Entrance to the upper level of the clinic is gained from Third Street, and to the lower level directly from the parking area. A pneumatic electric self-operating elevator connects the upper and lower levels.

The individual medical suites are situated around the perimeter of a 2½ story high inner court, measuring 50' x 50'. Individual reception areas face into this garden court, which features subtle landscaping clustered around a mosaic tile fountain. The plantings receive natural sunlight through a series of fiberglas skylights. The receptionist is located on an island within the court, midway between the upper and lower levels, which provides control, accessibility, and convenience for patients.

The building contains completed medical suites for ten physicians, and includes facilities for radiology, laboratory, and pharmacy. Unfinished areas are included to provide



*The site plan indicates the extensive landscape work which so distinguishes the building and parking area.*





**architect:** Henry Therkildsen, A.I.A., Casper  
**owner:** Clinical Investments, Inc., Casper  
**engineering consultants:**  
**structural:** Volk and Harrison, Casper  
**mechanical:** Harry O. Patterson, Casper  
**electrical:** Kenneth Kolstad, P.E., Colorado Springs

**general contractor:** J. Jones, Contractor, Inc., Casper  
**air conditioning contractor:** Climate Control, Inc.  
**size:** 30,400 sq. ft.  
**construction cost:** \$484,000.00  
**total project cost (excluding land):** \$540,000.00

suites for seven additional physicians. Each suite is designed according to the requirements of the individual; no two are alike. The decor varies extensively, providing each suite with artistic individuality and avoiding monotonous repetition.

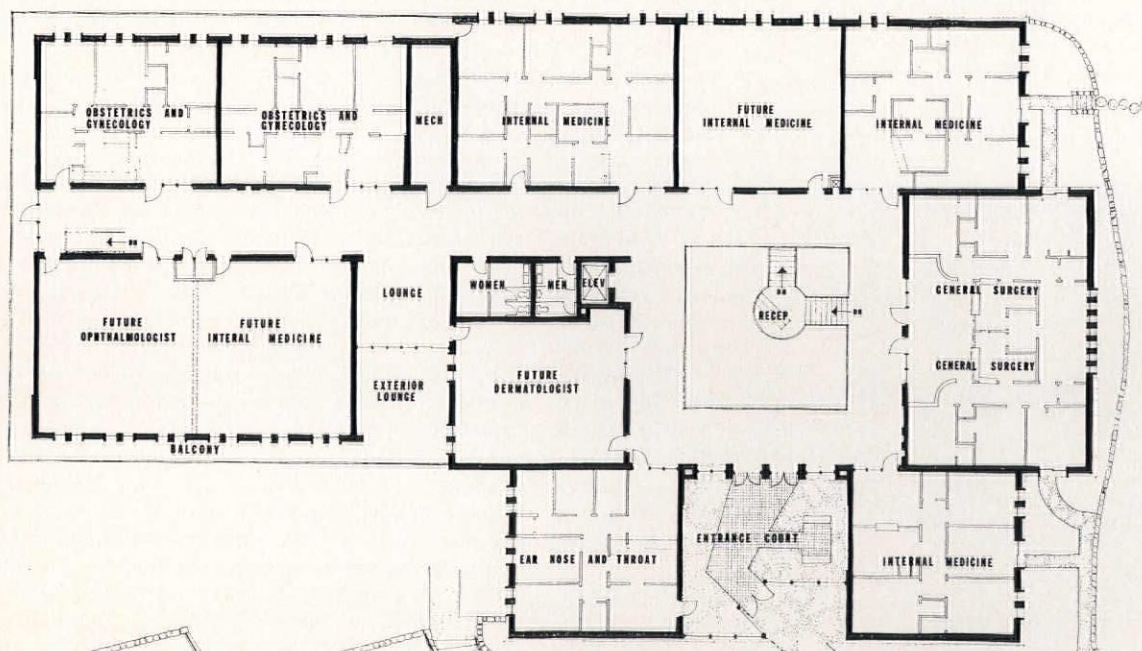
The interior court and corridor areas are finished with natural wood and face brick, which provides a warm, inviting feeling. All traffic areas are carpeted. Indirect lighting is utilized extensively. Every effort has been made to provide a soft, warm, comfortable environment.

The entire building is air-conditioned for both heating and cooling, and utilizes an entirely-new concept of climate

control. The system employs the use of water-to-air reverse cycle refrigeration units, and is referred to as electro-hydronic year-round air conditioning. This is the first such system installed in Wyoming.

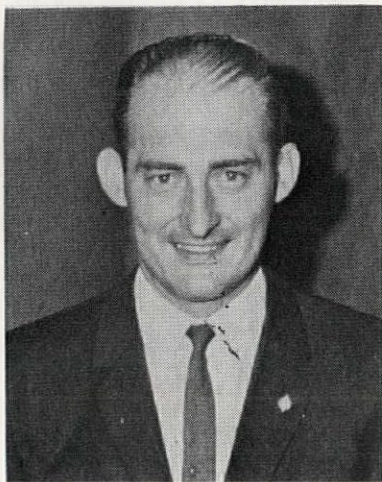
The architect and individual owners have combined their ideas in an overall effort to provide Casper with a new Casper Clinic Building which combines esthetic beauty, convenience, and functional integrity.

The project has received an Electrical Excellence Award from Pacific Power and Light Company, and a City Beautification Award from the city of Casper.

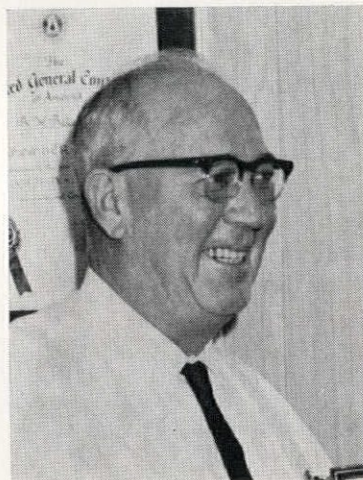


The first floor plan shows the central court with steps leading down to the reception area. The ground floor steps lead up to the receptionist's island.

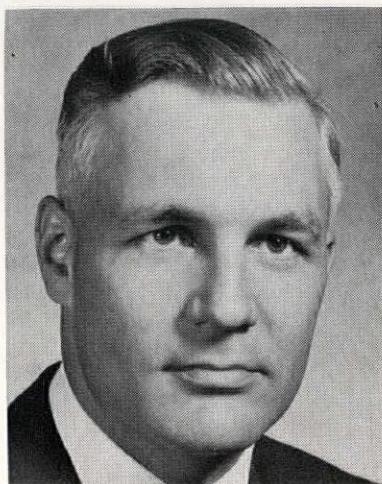




**Roland Proett**  
Producers' Council



**B. Howard Baker**  
Associated General Contractors



**John Ten Eyck**  
American Institute of Architects

## Construction Industry Cooperation Headlined at National Convention

Symposia readers are not unfamiliar with the Construction Practices Council of New Mexico which was formed in 1966 in an attempt to solve some of the many problems which beset America's largest industry. Spearheaded by M. F. Fifield of the Physical Plant Department of the University of New Mexico in Albuquerque the CPC of New Mexico has brought together all prime movers, i.e., architects, engineers, contractors, sub-contractors, specialty construction and owners, into a single group making a concerted effort to obviate evils such as "bid-peddling," "late bid submissions," etc. The recommendations of the council have been published in "Guideline" — summarized for Symposia readers in April, 1967.

To further the avowed purpose of the New Mexico group, the Construction Practices Council will present a full-scale review of the subject on Tuesday morning, May 14th at 9:15 a.m. at the Broadmoor International Center in Colorado Springs, Colorado. This is in connection with the 55th Annual Convention of the National Association of Physical Plant Administrators which opens May 12 with Colorado College as the host school.

The presentation of this complicated construction practices problem will be in three phases. In Phase I, Mr. M. F. Fifield will summarize the organization and development of the New Mexico Council, including its purposes and goals. It is hoped that members of the CPC Board of Directors will be on hand so that during the ensuing coffee break and luncheon, those in attendance may avail themselves of this opportunity for informal questioning and discussion with these men. Members of the New Mexico board include: Frank Bridgers, consulting engineer; Joe Boehning, representing architects; Jack Pope, representing specialty contractors; W. D. Ross, mechanical and electrical contractors; Lloyd Saltee, suppliers; G. W. Stuckman, general contractors; and R. V. Taborelli, representing owners.

Following the coffee break, Phase II will take the form of a panel discussion moderated by Richard A. Adams, Director of the Physical Plant, Oregon State University, Corvallis, Oregon. The panel members represent all segments of the industry in Colorado — they are: John B. TenEyck (President, Southeastern Section, Colorado A.I.A.); C. Kenneth Kolstad, P.E. (Consulting Engineers Council/Colorado); Walter S. Langebartel, P.E. (Professional Engineers of Colorado); B. Howard Baker (National Director, Associated General Contractors); Richard C. Dearing (Natkin & Company, representing mechanical contractors); Harold M. Whitney (Southern Colorado Chapter of the National Electric Contractor Association representing electrical contractors); and Roland Proett (Dow Chemical Company, President of the Rocky Mountain Chapter/Producers' Council representing suppliers).

Phase III, also chaired by Mr. Adams, will invite open discussion from the floor on the merits of more adequate communication between all parties involved in the major construction contract . . . the main benefit of the Construction Practices Council endeavor.

This presentation on Tuesday morning, May 14, in Colorado Springs will certainly be one of the most thought-provoking meetings to be held in this area for some time to come. It will be well worth the time and small effort to be on hand at the Broadmoor's International Center for the complete presentation being handled so efficiently by Mr. Fifield of New Mexico University and by Host Chapter Coordinator, Mr. R. A. Kendrick of Colorado College. We are all most aware of the pressing need for communication within the architecture/construction community, and this meeting may provide significant answers for us all. See you in Colorado Springs!

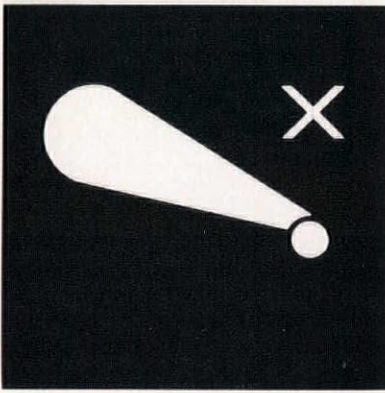


# SKYLINE/DENVER

... one year later

*"The city throughout history, has been the cradle of human civilization and progress. Today, like every other human institution, it is profoundly involved in the deepest and widest revolution ever to overtake mankind." The Declaration of Delos.*

## THE VOTING MACHINE



On May 6, 1967, voters of the City and County of Denver approved by a smashing 72% majority the urban renewal project tagged Skyline. A lion's share of enthusiasm engendered was due to the overall schematics for the project prepared by Marvin Hatami (associated at that time as a principal in the firm of Baume, Polivnik and Hatami) and in consultation with planners Sasaki, Dawson and DeMay of Watertown, Massachusetts.

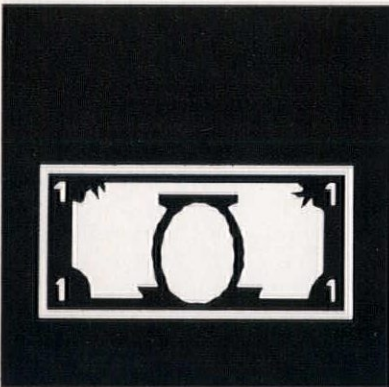
In the brief three months allotted for planning, Mr. Hatami laid the groundwork for the renaissance of a decaying core area which has increasingly festered on the body politic.

With voter approval, Mr. Robert Cameron and his staff at the Denver Urban Renewal Authority moved swiftly through the red-taped maze of government bureaucracy. As money became

available, DURA accepted the admonition for design excellence, signing a contract for the architectural and planning services of the firm of Hatami, Saul and Tanaka.

It is now one year later, a very short time on the urban renewal calendar, but it is well, we think, to review what has gone forward in the past twelve months, and to look ahead to the future. We cannot overlook the vast implications of the decisions made now in the light of their impact upon what the city will become in the decade before us. We are extremely grateful for the hours given us by both Mr. Robert Cameron of DURA and by Mr. Marvin Hatami in so painstakingly delineating the Skyline project both brief yesterday and long tomorrow.

## MONEY



*"There is no cheap way out."  
H. Wentworth Eldredge*

The Skyline vote of a year ago was not a "money" vote—in that connotation, Skyline had been bought and paid for. The down payment, of course, was the city's financial backing for the new Convention Center and Exhibit Building designed by Den-

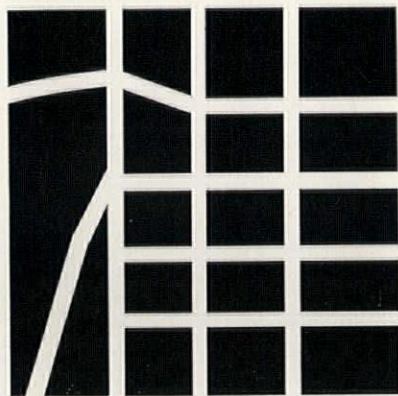
ver architect Bill Muchow, and whose intricate steel webbing is rising above the two block site contiguous to the Skyline area. The Urban Renewal financing for Skyline totals in excess of \$33 million—actually DURA received within \$25,000 of the total requested. This is blithely called "Federal" money as if it fell "like the gentle rain from heaven upon the place beneath." Mr. Cameron wryly remarks upon occasion . . . "the government doesn't have any money—it's *our* money."

If it is true as has been suggested that the American city is like an unmade bed, we could carry the simile a bit further and note that the DURA grant of over \$33 million is our household budget. It will be spent on private appraisal, and land acquisition for studies and planning—a myriad of vital expenditures. It is probably not enough, and like the alarmed housewife at the checkstand of her supermarket—we may find our champagne appetites incompatible with our beer

pocketbooks.

The BIG money will be spent in the Skyline area by private investors and entrepreneurs, and the success or failure of this urban renewal will depend upon the enthusiasm of independent capital. An educated guess can bring this amount to an investment figure as high as \$250 million. No definitive judgment of the potential can, of course, be made until land is actually appraised, acquired and cleared. There is at this moment much interest and much inquiry, but by 1969 or 1970—somebody is going to have to put their money where their mouth is. The outlook is auspicious. The stranglehold imposed on Denver's growth in the pre-World War II era by the isolationist tactics of some local 17th Street "sacred cows" hopefully has been broken. Their shell shocked ranks re-form from time to time, but cannot, in our estimation, withstand the phalanx of the future.





*"The hurrier I go — the behinder I get."*

*Old folk saying*

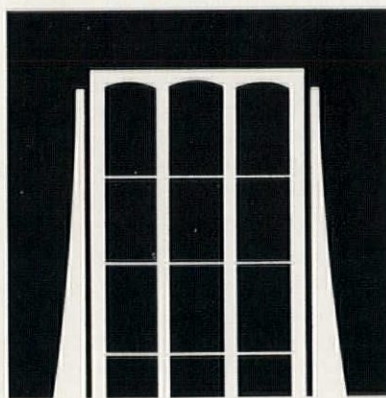
Medical science, it appears, has come a long way upon the road toward curbing the "population explosion." There has been, however, no "pill" thus far developed for the automobile industry. The thousands of baked enamel, chrome trimmed bodies whelped daily by the manufacturers, are enthusiastically adopted by the American family. This fecund geometric progress has so choked the arteries leading to the heart of the city that coronary thrombosis seems imminent.

Criteria for the Skyline project meets the car-crisis head on—a collision producing a mandate for off-street parking and loading facilities for developers within the area. It is the hope curb-side parking can be eliminated and that surface parking areas will be depressed, partially depressed and/or provided with landscape screening.

Architect Muchow stated unequivocally that the now-building Convention Center would be "obsolete" upon completion without parking for 4,000 automobiles. Mayor Tom Currigan, like Pilate, tried to wash the city's hands of the whole mess—he said Denver wanted no part of the parking business. At a capital investment of about \$3,000 per space, Mayor Tom's reluctance to "play cars" is understandable . . . but unrealistic. Most urban areas have had to face up to the problem by the creation of a "Parking Authority" or some means of partial subsidy for the disposal of the automobile. Slow and painful as "facing up" may be—it is inevitable. The full participation of Colorado University's Denver campus in solving at least a part of the parking dilemma is highly encouraging. There is great concern evidenced by all members of the Skyline team—and present studies may unearth the answers. Certainly, all aims, cultural or commercial, hinge upon a practical solution to the Great Parking Problem.

On the drawing boards at the Ken R. White Company, Denver based Consulting Engineers, are design studies being developed for the projected Skyline Freeway—an arterial which will serve as a major ingress and egress route to the area. Almost weekly briefings are being held involving all elements of the Authority and the consultants. Great care is being exercised in the highway study so that the final result will enhance Skyline—both practically and esthetically. But . . . let us not forget . . . the "how" and the "when" of the Skyline Freeway is in the hands of the Colorado Highway Department.

## THE BUILDINGS



*"One of the prime purposes of architecture is to heighten the drama of living. Therefore, architecture must provide differentiated spaces for different activities, and it must articulate them in such a way that the emotional content of the particular act of living which takes place in them is reinforced."*

*Edmund N. Bacon "Design for Cities"*

During the past fifteen months, our happy association with Marvin Hatami has added immeasurably to our understanding of the design potential of the Skyline project. Mr. Hatami is (a) brilliant, (b) dedicated and (c) stubborn—three very good things to be if we are to succeed in creating a viable core area.

The "quick" three-month study which was Skyline one year ago is

presently under re-evaluation. Based on solid research, land use, street structure and other considerations being examined in depth, will promulgate many new and exciting concepts which can be woven into the fabric of urban living.

Ha'ami has an ardor for the city—his razor-sharp sensibilities visualize excellence in mundane usage—design objectives only glimpsed in the original schematics have not changed—realization, he feels, can be significantly better than the cursory original presentation.

Case in point: the second level pedestrian walkways initially conceived for only a small part of the Skyline project may become a definite possibility for a much larger segment of the area.

The research and decision making role of consultants including the firm of Hatami, Saul and Tanaka are being used by the Authority to the fullest—a wise and well considered step toward excellence. The coordinated effort being made by all elements concerned may well create a "downtown" heretofore unknown in our region. There is, at this time, no reason to doubt that private capital can achieve economically feasible land usage compatible with design excellence within the area. Signs and setbacks—parking and off street loading can only serve to multiply commercial values.

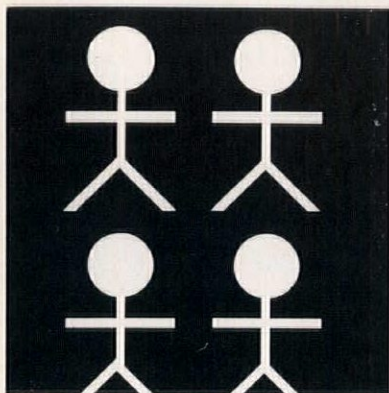
The historic preservation of buildings is a touchy topic. Perhaps because we in Denver are so newly awakened to this aspect of our past, almost any discussion is rather like taking the tiger by the tail. One hard and bitter fact remains—what is really left to us to preserve in the Skyline area? The opportunity to save the Windsor Hotel, the old Tabor Theater and much, much more of genuine historic value has long since trickled through our fingers. And—are we not now committing a further sin of "too little and too late" as one after another of the great and gracious mansions on Denver's Capitol Hill fall before the onslaught of the pseudo-mansarded horrors of high rise apartment buildings?

Proof that "historic preservation" can be fun (and profitable) is evidenced by the success of Larimer Square, that creative blending of enlightened client (Dana Crawford) and sensitive architect (Langdon Morris). This kind of partnership should be the major consideration today of those truly concerned with historic preservation.

The architectural aim for Skyline is in Mr. Hatami's words . . . "no backyard architecture"—let us hope the implementation will realize this dream.



## THE PEOPLE



*"Remedial social planning is necessary in our society because the major forces shaping our lives are unplanned . . . Because we do not plan our technology, but allow it to follow opportunistic lines, we do not control the repercussions of its development."*  
John W. Dyckman

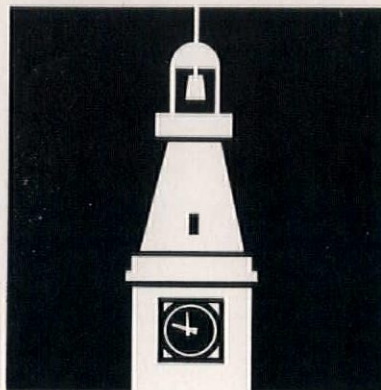
The mute but damning evidence of approximately fifty liquor licenses within the small Skyline area tells the tale. Today . . . this is "skid row" where the displaced and the disenfranchised drift in a meaningless pattern from flophouse to bar to jail and back again. Termed by DURA's Bob Cameron as "the revolving door"—he also suggests that there is a point within this insidious circle where redemption of this human flotsam can be accomplished. De-intoxification centers established in other urban areas report results through the use of "anabuse," job placement and through understanding of a problem which is medical and psychiatric as well as social. Mr. Cameron in talking with Symposia, reflects the very real concern of the Authority in providing an equitable solution to the "skid row"

problem. Presently, Denver University, the University of Colorado, Fort Logan and intensely involved lay people and institutions are bringing to bear the best of research facilities to provide answers. "Skid-row," as Mr. Cameron points out, can be anywhere in a city where cheap housing (the flophouse) and abundant alcohol is present. If such a new "skid row" develops in another area of the city as a result of the renewal program in Skyline, it will be the result of the indiscriminate granting of liquor licenses—the further decay of areas into the "flophouse" category and the indifference of city and citizen alike to the rehabilitation of the "alky" to a useful life.

There are other people in the area to be considered as well—about ninety families live there—and there are the old and the poor. Relocation of these people must be made on a base of humanitarian concern . . . and it would seem likely this can be accomplished within the Model Neighborhood program of which Skyline is a part. In a sense, this confirms charges leveled at Urban Renewal . . . that is, displacement of the poor. Denver's saving grace is the Model Neighborhood which will be developed around the Skyline core. Low cost housing now seems incompatible with developing criteria.

The "not so poor" have already landed. Brooks Towers, the high rise and high rental apartment facility within the area, nears completion. All architectural considerations aside (this is not the time or place for a critique of this badly conceived structure), leases being signed indicate an enthusiasm for mid-town living. Predictions can be nothing less than optimistic for less formidable apartments and town houses which may attract with really good design and with a bow to the amenities . . . the very rich and the very cultured elements of Denver's urban society.

## THE TOWER



*"The great issue in planning is not where to build but where not to build."*

S. B. Zisman, "Open Spaces in Urban Growth"

Overshadowed as it may be today upon Denver's skyline by other and less lovely sky piercing structures — the old Tower of the Daniels and Fisher store still remains the symbol for the renaissance of the city's heart land. The appeal of the three-block linear park complete with trees, pools and greenery is universal and vital. Pegged originally as the "civic element" within the framework of the Skyline Urban Renewal project, it is developing today into a focal point from which additional "green areas" may spread throughout the core area. Early in the city's history, forward looking Denver mayor, Robert Speer, set the "tone" through our green parkways and in the development of the Civic Center. Today's leaders—both business and municipal—can find no better example. As Skyline develops, let us hope to see many small areas of green appear—a delight and a surprise to concrete-jaded eyes.

## SUMMATION

In conclusion, let us examine briefly the time-table which DURA has established for the development of the area. By law, all land appraisal for the Authority must be done by private appraisers—this work is in process and should be completed by October 1 of this year. Second step in the renewal process is the acquisition of land and buildings. First acquisition is scheduled presently for the area from 18th to 19th and from Champa Street to the alley between Larimer and Market. Demolition will proceed

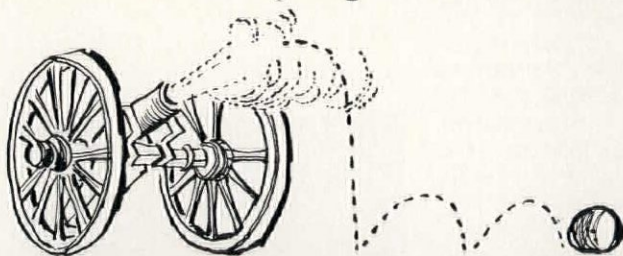
on a block-by-block basis and new construction can be initiated immediately. Within the area, there are a few businesses who cannot effect a move within the allowance set—and additional money is now being sought by DURA to ease the financial pressures on this segment of the industry in Skyline.

Will Skyline be successful? A city can find a new life and a new hope. Philadelphia, under the firm guiding hand of Edmund Bacon, is a significant answer. This didn't just happen.

Bacon, talented and imaginative as he is, could never have made the new Philadelphia without the support of all of the elements . . . both public and private . . . involved in the creation of a better environment. Let us accord our own professionals the same respect—they know their business—let them do the job. We are quite beyond the era of "every man his own brain surgeon"—if we are to realize a successful Skyline, we must let those who are prepared, educationally and esthetically, bring our hopes to fruition.



## a symposia salute



TO:  
THE HOME TEAM

Maxwell Saul, Chairman  
R. James Noone, Co-Chairman  
Arthur Bush, Denver President  
E. F. Dillon  
Thomas W. Keeton  
John McGuire  
Oluf Nielsen  
Fletcher B. Trunk

*(With no apologies whatsoever to Ogden Nash)*  
*Here's to the Home Team!*  
*The jolly, jolly Home Team!*  
*The fellows who are great from first to last!*  
*Here's to Max and Jim and Art!*  
*To all who've done their part!*  
*To make the 12th Annual Construction Specifications Institute Convention in Denver, Colorado . . . a perfect blast!*

Although forewarned is supposed to imply forearmed, this does not always mean that the Host Chapter is prepared for the onslaught of a well-attended National Convention. Denver is, of course, not the smallest of CSI Chapters—but it's not the biggest either, and so quality has had to replace quantity in the planning and execution for the 12th annual gathering of the CSI clan. The number of man-meeting hours laid end to end would certainly make an impressive showing, but Symposia considers the innovative and imaginative thinking which has gone into the Host Chapter Program most deserving of our May salute. There has been a fresh approach—a delightful melange of the old and the new West which should bring to visitors a graphic picture of what high-country living is all about.

Denver's Host Chapter Committee has enjoyed a full measure of cooperation from the Institute and from many local organizations. This has smoothed many a road . . . and forded many a stream. The laurels however must rest where they belong—upon the slightly moist, and somewhat furrowed brows of those men who have given so freely of their time and talent to bring to the Construction Specifications Institute a many faceted view of their city . . . its traditions, its present and its promise. Symposia (albeit decidedly prejudiced) has pronounced the 12th Annual a "wowser." We think all of those who attend May 26-29 will definitely agree!



Maxwell Saul



R. James Noone



*The Home Team at Work: Max Saul (back to camera), left to right—Art Bush, Tom Keeton, Oluf Nielsen, John McGuire. (Photo: Rush McCoy)*



Arthur Bush



**TO: C.S.I.**

**. . . the members - their wives - their guests**

**HOWDY**



**. . . AND WELCOME**

As Chairman of the Host Events for the 12th Annual Convention of the Construction Specifications Institute, I want to welcome each delegate, their wives, guests and exhibitors to Denver. On behalf of the Host Committee and the entire Denver Chapter, I extend our personal hello. We hope that your stay with us is not only enjoyable but educational. The activities we have for the conventioners were planned around our fickle but delightful weather. If you don't care for the particular weather we've ordered for you, wait a moment, it will change. I'm sure I speak for each member of the Committee and Denver Chapter in saying that instead of the large parties we would have preferred to invite each of you to our homes to show our typical Western hospitality. Nevertheless, we hope you have as much fun participating as we had in planning the events.

Maxwell L. Saul, CSI, Chairman  
Host Chapter Events Committee





# construction specifications institute 12th annual convention denver, colorado -

may 27, 28, 29, 1968

## REGISTRATION AND HOST CHAPTER INFORMATION BOOTHS . . .

Convention Lobby of the Hilton Hotel

Open: 11:00 a.m.-6:00 p.m.—May 25th (Saturday)

1:00 p.m.-8:00 p.m.—May 26th (Sunday)

Registration Area (Main Level) Convention Center

Open: 7:45 a.m.-6:00 p.m.—May 27 (Monday)

8:00 a.m.-6:00 p.m.—May 28 (Tuesday)

8:00 a.m.-3:00 p.m.—May 29 (Wednesday)

## The Early Bird Catches . . .

What else? — The Early Bird Tour!

Special chartered buses will depart Denver's Hilton Hotel at 11:00 a.m. — Sunday, May 25.

You're off to Pikes Peak country! Just ten miles north of Colorado Springs is the United States Air Force Academy, a contemporary architectural tour-de-force amid the rugged splendor of the Rampart Range. Focal point of the 17,900-acre site — the sharply disciplined aluminum spires of the Cadet Chapel. After touring the AFA facilities "early birds" will enjoy luncheon at one of America's really fine resort hotels — the Broadmoor. The most dis-

criminating agree that "this is the only way to fly."

On the return trip to Denver, the eternal architecture of the Garden of the Gods . . . monolithic monuments sculptured by nature's chisels of wind and weather.

You're back in Denver at 4:00 p.m. — plenty of time to "shine up" for the happy howdy of the Convention Mixer in the Ballroom of the Hilton. A plus-plus factor for this event is the Dixieland music of Bill Murray's combo. (Bill, incidentally, is a former musician with "Queen City" — and in addition is — at present — a member of Denver's CSI Chapter.)

## COMMUNICATIONS SYSTEMS IMPLEMENTATION

### the program

when	what	where
<b>MONDAY</b>		
9:00 a.m.	—Exhibitor's Briefing	Room 2-A/Second Floor
9:00-10:00 a.m.	—Opening Formalities	Convention Center
	Invocation	Third Floor, Convention Center
	(The Right Reverend Monsignor George R. Evans, Chancellor, Archdiocese of Denver)	
	Pledge of Allegiance	
	Introduction of Officers and Directors	
	(President John Anderson, F.C.S.I.)	
	Welcome to Denver	
	(The Honorable John A. Love, Governor of Colorado)	
	Principal Address	
	"Horizons—Tomorrow and Beyond"	
	(David J. McGrath, Publisher, Engineering News Record & Construction Methods and Equipment)	
11:00 a.m.	—Exhibit Viewing and Buffet Luncheon	Exhibit Areas, Convention Center
2:00- 3:00 p.m.	—Address: "The New Language for Specifiers"	Third Floor, Convention Center
	(Dr. M. J. Horsch, Giffels and Rossetti, Inc.)	
3:05- 3:30 p.m.	—Address: "CSI and Research"	



## when

## what

## where

	(Charles R. Carroll, Jr., CSI Treasurer)	
3:30- 5:30 p.m.	—Exhibit Viewing—Prize Drawings	Exhibit Areas, Convention Center
6:30-12:00 midnight	—HOST CHAPTER PARTY	Western Stock Show Stadium
	“NIGHT AT THE FRONTIER”	
	Dinner — Drinks — Dancing PLUS “The Westernaires” (Come casual)	

## TUESDAY

8:00- 9:45 a.m.	—Panel: “Automated Methods for Specifications” (Moderator: Edwin W. Barnard, CSI Barnard and Associates.) Panel Members: Brawley M. King, Caudill, Rowlett and Scott William R. Eades, Jr., William W. Bond, Jr. and Associates	Third Floor, Convention Center
9:50-11:00 a.m.	—Address: “Engineering Specifications—Current Practice and the Transition to the Future” (Robert E. Vansant, CSI, Black and Veatch)	Third Floor, Convention Center
11:00 a.m.	—Exhibit Viewing—Buffet Luncheon Prize Drawings	Exhibit Areas, Convention Center
2:00- 3:10 p.m.	—“Storage and Retrieval” (H. Dean Brown, Manager, Systems Engineering— Charles E. Diehl, Senior Staff, Public Works and Housing Research, Stanford Research Institute) Panel: “Reference Workmanship Specifications” (Moderator: Larry C. Dean, CSI, Director, Region 4) Panel Members: Louis H. Sams, Jones and Fellers Charles J. Huckleberry, FCSI, Mid-South Manufacturing Company J. D. McFarlan, FCSI, Robert and Company Associates Ray E. Cumrine, Sharp and Handren L. E. Atkins, Jr., FCSI, Woody Atkins Associates	Third Floor, Convention Center
3:15- 4:30 p.m.	—“Specifications and the Accelerating Technology” (Professor Gifford H. Albright, Head; and Professor Larry Degeleman, Department of Architectural Engineering, Pennsylvania State University.) Panel: “Enforcement of Specifications” (Moderator: Rogers E. George, Jr., CSI, Grover Diamond Associates, Inc.) Panel Members: B. Warren Hart, Moore, Costello and Hart John H. Schruben, Skidmore, Owings and Merrill	Second Floor, Convention Center
4:30- 6:00 p.m.	—Exhibit Viewing—Prize Drawings FREE EVENING For suggestions—see attached booklet— “IN DENVER”—courtesy Symposia	Exhibit Area, Convention Center

## WEDNESDAY

8:00- 8:55 a.m.	—Address: “Institute Organization Policies and Practices” (President John C. Anderson, FCSI)	Third Floor, Convention Center
9:00-11:00 a.m.	—“The Building Systems Concept” (Peter Kastl, Building Systems Development, Inc. and David S. Miller, Senior Vice President, E. F. Hauserman Company)	Third Floor, Convention Center
11:00 a.m.	—Exhibit Viewing—Buffet Luncheon Prize Drawings	Exhibit Area, Convention Center
2:00- 5:00 p.m.	—Annual Meeting (Members Only) Awards Presentations—Resolutions—Officer Reports	Third Floor, Convention Center
6:30- 7:30 p.m.	—President's Reception	Lobby and Foyer, Hilton Hotel
7:30 p.m.	—President's Banquet Invocation (The Reverend Paul Noren, Augustana Lutheran Church) Honors and Awards—Ladies Prize—Dancing	Grand Ballroom, Hilton Hotel

## TRANSPORTATION:

PLEASE CHECK THE BUS SCHEDULE POSTED IN THE LOBBY OF EACH HOTEL FOR ALL SOCIAL EVENTS INVOLVING TRANSPORTATION INCLUDING THE SHUTTLE BUS TO AND FROM HOTELS TO THE CONVENTION CENTER.



*"Cherchez la femme" . . . or if you will . . .  
 "There's a woman at the bottom of it"*

*Monday*

At 12:00 Noon — Ballroom of the Brown Palace Hotel  
 Luncheon and a fashion show with a delightful difference. The Denver Art Museum will present an authentic Indian fashion show — original and beautifully decorated clothing from many Western Indian tribes. This will conclude at 2:30 p.m. allowing plenty of time for you to get ready for the Host Chapter Party . . . "A Night at the Frontier."

*Tuesday*

At 10:00 in the morning, buses will be ready at the Denver Hilton Hotel for a tour of "Historic Georgetown." Sponsored by the Denver Symphony Guild, you will be ushered back into the "great golden era" of Colorado's past. You will visit "Hamill House," a magnificent Victorian mansion which boasts gold doorknobs, imported Carrara marble and onyx fireplaces, parquet floors, and the most unusual "outdoor facilities." Second stop on the tour is the "Hotel de Paris" which is owned and operated as a museum by the National Society of the Colonial Dames of America. The sumptuous old hotel and its furnishings are almost as they were in the late 1800's.

*Wednesday*

A buffet luncheon will be served at the quaint Alpine Inn. You'll be back by 2:45 p.m. This is a free day . . . and you are sure to find suggestions in Symposia's complimentary booklet — "In Denver."

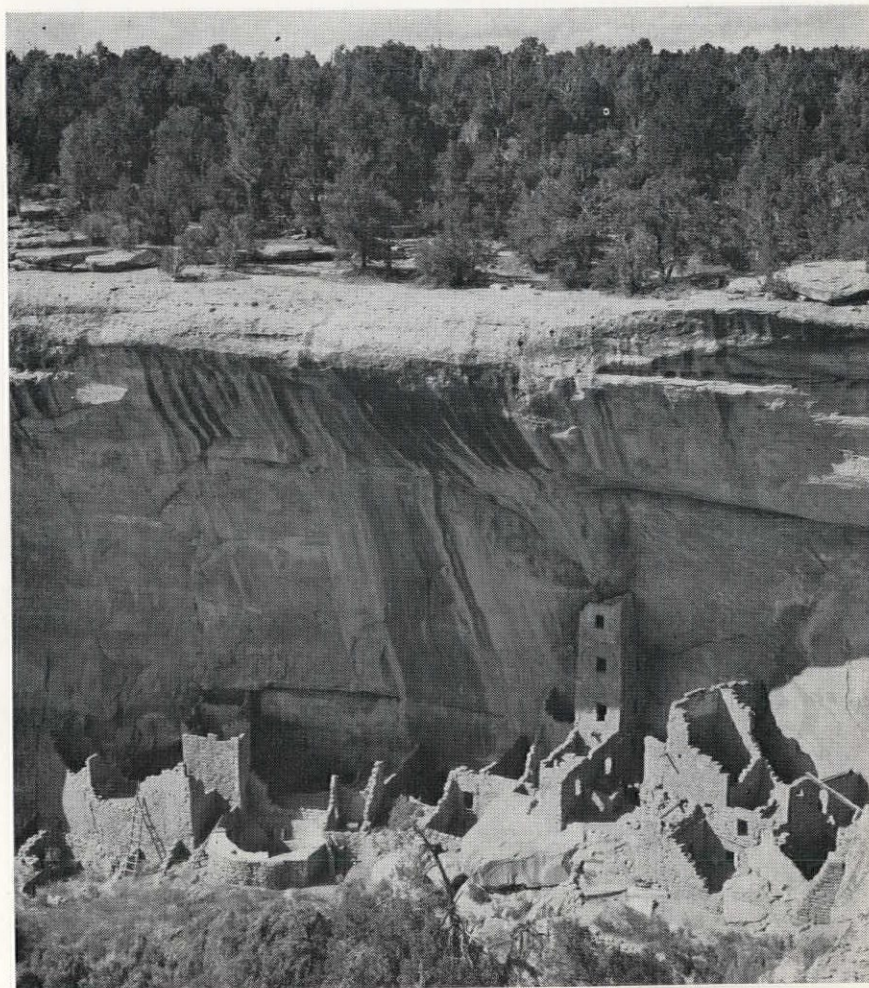
## After the Ball Is Over—

Timing of the 12th Annual CSI could not be better. With Memorial Day on May 30th — the Post-Convention Tour should be unusually successful. (After all, you don't have to get back to the salt mines until Monday, June 3.)

It is really almost worth the time (and the price) to ride one of the few surviving narrow-gauge railroads in the U.S.A. from Durango to Silverton.

The scenery is eye-popping. You should accumulate enough "marvelous views" to last at least half a lifetime. As the narrow-gauge engine chuf-chufs along the Animas River, it's easy to imagine the "black hat" boys sweeping down to hold up the train. It's an exciting journey into a Western yesterday.

Now — going back a few odd centuries — you come to Mesa Verde where the Pueblo Indians lived and prospered long before Coronado and his Conquistadores came north searching for the seven fabled cities of Cibola. The remarkably preserved ruins of this pre-Columbian civilization is easily one of the most interesting of all national parks in America, the Beautiful.



*Square Tower House in Mesa Verde National Park*



## SPEC DATA

This Spec-Data Sheet conforms to editorial style prescribed by The Construction Specifications Institute. The manufacturer is responsible for technical accuracy.

by: Myles A. Murray, P.E.  
Technical Representative  
Protex Industries, Inc.

The SPEC DATA Program was conceived by the Producers Council and nursed by a joint committee of the Producers Council and the Construction Specifications Institute. It was adopted by the Construction Specifications Institute, and is now an active child of the construction industry, growing at a healthy rate to maturity. The increasing number of manufacturers participating insures the continued growth of the SPEC DATA Program. Your specifying and using products of the manufacturers that are participating in the SPEC DATA Program will insure you that accurate technical information of conscientious manufacturers will be at your disposal. A list of existing participating manufacturers was last published in the December issue of the "Specifier."

At present there are approximately 100,000 building products available to the construction industry; it is estimated that by 1970 there will be 300,000. With the large number of products available, it has become imperative for the Architects, Engineers and Contractors to have, and to use, a comprehensive format and retrieval system for products. The SPEC DATA sheets provide the key to both of these requirements.

The SPEC DATA program is for you, as a member of the construction industry. Through this program the Architects, Engineers and Contractors are able to objectively evaluate comparative products offered by the manufacturer for use on their projects. The manufacturers, in turn, have a defined format to follow, which enables them to present information related to their products that is required by the Architects,

## BIG STEP UP

Engineers and Contractors. The combination enables all segments of the construction industry to work together toward the common goal of a satisfied consumer—the owner.

The SPEC DATA sheet contributes toward the fulfillment of this goal by providing a uniform presentation of applicable data and a standard filing system. This sheet is written and published by the manufacturer. During the interim between the original writing and final printing, the SPEC DATA sheet is reviewed for accuracy and content by the technical staff of CSI, and printed only after its content has been approved for publication by CSI. The technical staff of CSI is comprised of competent and inquisitive professionals that assure the user that information presented is accurate. Through their efforts, each manufacturer is guided through the editing process to the final SPEC DATA Sheet, which reflects the technical data that the Architects, Engineers and Contractors require to evaluate comparative products objectively.

The applicable data that has been defined for the SPEC DATA sheet provides uniformity in presentation for all manufacturers, and answers—at a glance—basic questions which are constantly being asked by Architects, Engineers and Contractors. Each SPEC DATA sheet is divided into the following ten (10) general headings:

1. Product Name—What's it called?
2. Manufacturer—I never heard of them!
3. Product Description—Does it really look like that?
4. Technical Data—I'll have to consult the Research Department.
5. Installation—Didn't they send instructions?
6. Availability—Why won't they send it out there?
7. Guarantees—I was sure they said it would do all that.
8. Maintenance—That's covered under the service warranty.
9. Technical Services — That's the guy that sold it to me.
10. Filing System—Oh, I threw that away.

The ten (10) categories on the SPEC DATA Sheet are comprehensively pre-

sented by the manufacturer, making it easier and quicker for the specifier to find applicable information about any product. The information conveyed in many of these categories is often omitted in the standard advertising literature. Although the SPEC DATA sheet is not designed to replace the advertising literature, it does fill the "credibility gaps." These gaps can be frustrating and misleading to the Architects, Engineers, Contractors, and even the manufacturer. The defined format enables the manufacturer to answer the questions frequently asked by the Architects, Engineers and Contractors before they are asked. It enables all parties to make a more responsible decision regarding comparative products when the phrase, "or approved equal," is specified.

The filing system, in parallel with the specification format, and as a part of the uniform system, is divided into sixteen (16) divisions, which permit only one filing designation for each product, or SPEC DATA sheet. The filing system was coordinated with eleven major construction industry associations, and is now designated the "Uniform System." The Uniform System replaces the multitude of filing systems that had formerly been created by several separate associations. The Uniform System is approved and supported by the following associations: AIA, ASLA, AGC, CSI, SMSCI, NSPE and PC.

Subsequently, all advertising literature and SPEC DATA sheets are designated with the same filing system—the Uniform System. This system provides the specifier with at least one significant asset—there is only one place to look for any given product, and any given product can be filed in only one place. This asset provides the specifier with the advantages of quick retrieval of product information and comprehensive grouping of all product manufacturers related to any type of product. Therefore, it is to the advantage of all parties concerned to use the SPEC DATA sheet as the tool it is intended to be, i.e., the ability to find and evaluate competitive products objectively.

This is your tool—your program—and when used, it is to your advantage. Take advantage of it, and when contemplating a product, THINK SPEC DATA. SPEC DATA IS THINKING OF YOU.



# your building and your architect

(This article, "how to go from concept to construction" is the fourth in the series reprinted from the American Institute of Architects' excellent publication "Your Building and Your Architect." This is a handsome booklet which is available to all members of the AIA and designed for distribution to prospective building owners. It may be purchased from the Institute's Document Division at the Octagon for \$25.00 for 100 copies or 50 cents each for less than 100 copies. The graphics used in Symposia are the prize-winning work of architects within our Western Mountain Region, and are published here without credits—a criteria of the original AIA publication. The author of this series, Mr. Donald Canty, is the Director of the Urban Information Center of Urban America, Inc. in Washington, D. C., and is the Editor of the publication "City.")

## how to go from concept to construction

by: Donald Canty

By the time preliminary plans for his building are completed, the client has an imposing array of talent at his disposal. There are the architect and those members of his office staff assigned to the building. There are the structural, mechanical and electrical engineers who are normally paid out of the architect's fees (and can easily account for a third or more of it). There may be any number of other consultants, at extra fees, called in for advice on everything from colors to elevators to the interior design of entire floors.

Finally, as the project moves from conception to execution, the largest group of all prepares to join this legion: the contractors who will do the buying of materials and equipment and the building tradesmen who will do the actual work of construction. While the consultants have been in on the countless decisions that gave shape to the building concept and have a clear idea of what the end product is intended to be, the contractors and workmen can only know what the client and architects tell them about the project. One essential step remains, therefore, before they can begin their work: preparation of the architect's working drawings and specifications, which must describe the building until the real thing rises from the site.

### Plans, sections, elevations, and divine details

"In general," says the *Architect's Handbook of Professional Practice*, "information relative to design, location and dimensions of the elements of a project is the province of working drawings; and that having to do with quality of materials and workmanship belongs in the specifications." To state it another way, what can best be shown is put in the drawings, and what can best be told, in the specifications.

The drawings, when reproduced, are often called the "blueprints" for the building, although these days prints also come in other colors. They include plans; elevations, showing the walls head-on; sections, slicing the building open at various points; and details. There are also "schedules" of finish materials, doors, windows and hardware, showing how much of each item goes into every part of the building. Along with the general drawings of the shell go separate sets for the structural frame and the heating, air conditioning, plumbing and electrical systems.

Their production involves a challenge in communications between the architect and his consultants, most of whom are charged with production of working drawings of the building elements in their charge. It is up to the architect to see that, in the end, they come out even: that every time a part of the building is shown it looks the same and that the elements in one set of drawings dovetail with those shown in another. Otherwise, to use an example that is not totally unheard of, the contractor may find that he is asked to put a heating duct and a beam in precisely the same place.

For all their communications aspects, the drawings are also acts of design. It is at this point that the details of the building, the places at which its various parts are joined together, are worked out, and in the current era of simplicity of surface, details are all important. The famous assertion by an architect that "God is in the details" may be dubious theology, but it underscores the loving care which today's architects put into them.

### The delicate art of the specifications writer

The writing of specifications is no less an art than the making of working drawings, but it is perhaps in a somewhat earlier stage of development. The drawings, to recapitulate, show *what* goes *where* in the building. The specifications define the "what" and provide precise instructions for putting every item in place. Their principal concern is quality: they must state the standards to be enforced for each item used in the building and also for all important phases of the work itself.

The specifications writer, then, is in part a purchasing agent for the project, providing a shopping list covering each item and every building component. He is also something of a judge, attempting to anticipate and settle in advance potential conflicts among contractors, suppliers and the jealous principalities of the building trades.

### The need for accuracy and completeness

The volumes produced by these specialized authors generally have as their foreword the basic ground rules for contractors. These include the bid invitations and instructions, the bid and contract forms, the bond requirements and the all-important General Conditions of the Contract. The bulk of the specifications is organized according to



trades, and the sequence of trades is determined by the order in which they perform their jobs.

The trade sections of the specifications begin with a statement of the scope of the particular trade's work. It must make clear exactly where the jurisdiction of one trade ends and the other begins.

Next come a list of the materials and equipment required for the work at hand; provisions for any shop drawings or samples required to be approved by the architect and client before these items can be installed; procedures to be followed in construction of all elements of the building for which the trade is responsible; stipulation of any tests to be made of the work; instructions for cleaning up after the trade is finished; and finally, the guarantees which will be asked of the contractor.

All of this may sound quite dry and technical, yet in a real sense the trade sections of the specifications tell the history of the American building industry. It is here, for example, that new and revolutionary methods that will change the course of the industry are often first recorded, for most building research is promoted by individual projects. It is here that new products and materials undergo the acid test. It is here, too, that anachronistic methods of building are preserved and codified because the specifier knows that more progressive ways would meet resistance from building officials or unions or convention-bound contractors. And it is here that jurisdictional judgments are recorded which, by assigning work to one trade over another, can in the long run bring prosperity to the chosen group of contractors and craftsmen and eventual extinction to those excluded.

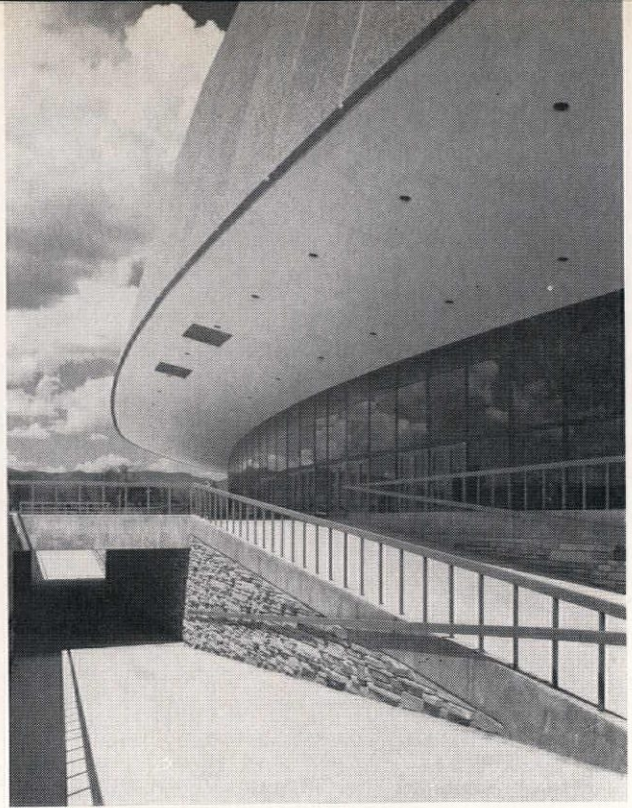
It is understandable, then, that the specifications are never prepared in a vacuum. While they are in preparation, the architect is beset with pressures, the vast majority of them perfectly legitimate. Fortunately for the client, sharing these pressures—knowing which suggestions and appeals to accept and which to reject—is part of the architect's job.

Some of the pressures come from salesmen of building products and materials, whose relationship to the architect and client is something like that of the lobbyist to the legislator: the salesman is a special pleader, but he can also provide useful information. The salesman's goal is to get his product specified by brand name; failing that, he wants to be sure the architect does not name another brand to the exclusion of his. The architect's goal is to be sure he has considered all reasonable alternatives in his role as the client's purchasing agent.

It used to be that the specifications would be full of brand names followed by the term "or equal," but the trend is toward *performance* specifications—which, however, are tricky to prepare. Even though some trade associations and independent testing organizations have developed helpful standards for many large and basic items, it still takes great skill to apply these standards to the particular situation at hand.

Pressures also come from the contractors, once they get a look at the plans and specifications. They may have favorite products and materials, favorite ways of doing things, at variance with what the architect has prescribed; they may have had a bad experience with an item in the specifications; they may be reluctant to experiment with new building materials.

Architects, except for those few who assume omniscience, will give their suggestions careful consideration. Indeed, they often call in one or more contractors for advice while the drawings and specifications are still being prepared. There is no substitute for the know-how that comes from direct experience in construction, a fact which places special importance on the care with which the contractor is selected.



#### **Competition, negotiations, segregation—and money**

When public monies are involved, there is a tidy division between the completion of drawings and specifications and the choice of a contractor. The contract documents are prepared, a public notice is issued inviting responsible builders to submit their bids, and the one turning in the lowest figure gets the job.

The system of open competitive bidding is a traditional part of the romance of construction. It is free enterprise at its freest and most frantic form. It virtually assures the client of getting the lowest available price tag on his building. It also has a great deal to do with the fact that Dun & Bradstreet reports a ratio of net profit (on sales) of only 1.18 percent among building contractors.

If wide-open bidding is a perilous gamble for many contractors, it also has its chancy aspects for client and architect. The lowest bid is seldom the most realistic one, and a builder in danger of losing his shirt can find room for costly extras in even the most tightly drawn contract documents. More important, it makes price the prime basis of selection, eliminating the opportunity to weigh the contending contractor's comparative abilities to turn out quality work.

Two alternative methods are open to the private client. He can retain the benefits of competition but limit the contenders to a select list; or he can simply negotiate a mutually agreeable price with a chosen contractor.

The common element of these two methods, of course, is the screening of contractors in advance. Sometimes this simply means taking the architect's word that he has worked with a given builder and has found him capable and reliable. In other cases, however, it means looking into the success of the contractor's past projects, the size and length of service of his work force, his reputation as an administrator of construction and even the kind of equipment in his corporation yard.

The negotiated contract has the considerable advantage of allowing the builder to become a valuable collaborator in the final stages of design. Obviously, however, he must be a man well known and thoroughly trusted by both client and architect. If no such man comes to mind and the client opens the project to bids, the use of a quantity surveyor can help to put the bids on a more realistic basis



(and also provide a preview of the eventual cost of the building while it is still possible to make changes). The quantity surveyor estimates the amounts of materials required for the building and sometimes the total man-hours of labor, putting a price tag on each. This extra service is the rule in England and becoming more popular in the U.S.

Another form of protection for the client who chooses to invite bids takes the form of deposits and bonds. Each contending contractor is required to submit a deposit with his bid. If he is the low bidder and for some reason decides to pull out, the client gets the deposit. The amount is usually a lump sum determined by the architect on the basis of his estimate of the project's cost or, less frequently, a percentage of the bid. The successful bidder also is required to put up a performance bond, insuring that the work will be finished even if he goes out of business, and often a labor and material bond guaranteeing payment of suppliers and subcontractors.

The contractor has been referred to in the singular, but, in actual fact, there are two basic ways to undertake construction: to engage a single general contractor who will subcontract whatever work his own force does not do or to engage separate contractors for each major segment of construction. The latter practice, sometimes called segregated bidding, usually involves the letting of individual contracts for the shell of the building and for its mechanical and/or electrical services.

#### **The controversial role of the general contractor**

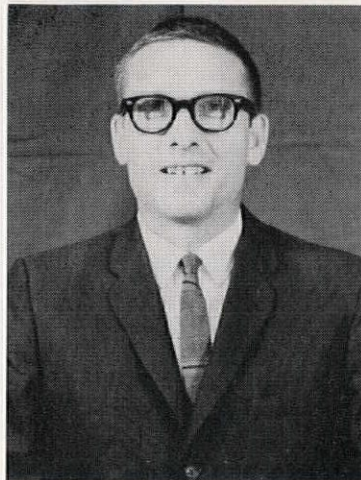
The relative merits of the two systems are the subject of continuing controversy within the construction industry. The general contractors claim that they are in the best position to captain the job from start to finish and point to the advantages of having a single coordinator responsible for the entire project. The specialty contractors claim that this procedure no longer makes much sense in an era when mechanical and electrical systems account for an increasingly large part of the cost of buildings; they say it simply puts a superfluous middleman in the way of progress.

The decision between letting one or several contracts is usually determined by one specific building situation: the nature of the project and the customs of the local construction industry. If segregated or separate bids are taken, however, the client should be prepared to pay the architect an additional fee for the close coordination that would normally be the task of the general contractor. And regardless of which system is used, the client and architect should exercise the same care in screening specialty contractors as they do in the selection of the general contractor.

The final decision to be made in choice of contractors returns the client to the familiar subject of money. Bids can be requested in the form of a lump sum, or the contractor can simply undertake the work on the basis of actual cost plus a negotiated fee. The first system is simpler and more clear cut, but can tempt the contractor to shave corners if he begins to realize he has submitted a disastrously low figure. The second puts the contractor on a more professional basis, but does not offer as great an incentive toward economy. Sometimes a combination of the two is used in which the contractor agrees to a cost-plus-fee arrangement, with a guarantee that the total will not exceed a stipulated "upset price." Savings are split between client and contractor on a predetermined scale.

With such decisions made, the time has again come for the client to sign his name. Earlier, he contracted with the architect for a concept and a service, the net result of which was, to this point, a stack of paper. Now he is contracting for equipment, for materials and for labor. The net result this time will be his building.

## *Symposia Presents . . .*



*Joe Boehning, AIA/CSI  
Albuquerque, New Mexico*

Symposia is piping aboard a new member of the crew this merry month of May in the person of Joe Boehning of Albuquerque, New Mexico. He is particularly well suited for a berth on the Editorial Advisory Board since he is a charter member of the Albuquerque Chapter of the Construction Specifications Institute, and serves as secretary-treasurer of the New Mexico Society of Architects/AIA . . . he is also active in the Construction Practices Council of New Mexico.

Mr. B holds bachelors degrees in both Architecture and Architectural Engineering from the University of New Mexico, and is an enthusiastic alum—vice president of the Alumni Association. He is registered as an architect in New Mexico, Colorado and Arizona and as a professional engineer in New Mexico. He holds a NCARB Certificate, is a Fallout Shelter Analyst/U. S. Department of Defense. From 1953-55, he was an engineering officer with the U. S. Air Force.

His community interests include Kiwanis, the Albuquerque Boys' Club Board of Directors and the City of Albuquerque Board of Standards and Appeals. The firm of which he is principal (Joe Boehning, Architect and Engineer), was founded in 1924 in Albuquerque by A. W. Boehning, Sr. Mr. A. W. Boehning, Jr. is presently associated with the firm. Mr. B was included in the 1966 Edition of "Outstanding Young Men of America," and in the 1968 "Outstanding Personalities of the West and Midwest."

Mr. Boehning's wife Bonnie serves as her husband's secretary, and they are the proud parents of three—Joanne (14), who is ranked No. 1 in the fourteen-year-old girls' singles by the Southwest Tennis Association; Paula (12) ranked 8th in the twelve-year-old singles, and a son, David, who is eight. The tennis prowess comes naturally to the young Boehnings since Dad is also an enthusiastic player—his other athletic interest is basketball.

Symposia is both pleased and proud to be able to present our new Board Member from Albuquerque—Joe Boehning, Architect and Engineer.



# THE SPECIALTY JUNGLE

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In the increasingly complex craft of construction, a new term is being heard more and more frequently: the specialty contractor.

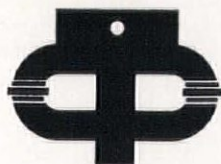
Among others, it may be used to refer to the structural steel specialist, to an acoustical expert, or even more appropriately, to the mechanical contractor.

However, to complicate matters even further, the mechanical contractor has to be many specialists rolled together. He must be able to create efficient transportation systems for fluids and gases, solids and liquids, suspensions and solutions. He must be an expert in indoor climate, air pollution, water pollution and the atmosphere of physical well-being. He must be able to pump or drain an amazing variety of substances through intricately designed piping systems under widely varying extremes of temperature, pressure and chemical action. To completely fulfill these assignments—to the satisfaction of architect, engineer and himself—the mechanical contractor must also provide electronic control systems to assure that his basic creations obey their owners, automatically.

Obviously not within the competence of a simple sub-contractor, these highly specialized skills are not come by easily—either for the employing contractor or his journeyman pipefitter and plumber. As an example, few people realize that to qualify as a full-fledged journeyman takes five years of study and practical experience along with a working knowledge of trigonometry, geometry and algebra just to perform an ordinary day's work. Or that his knowledge of metallurgy must be adequate to the joining of more than a dozen types of metal pipe, each with its own characteristics of flex, contraction and expansion.

This group of unusual specialists contributes so extensively to the ultimate success of the building—to making it come alive—that it's not surprising when the mechanical contract amounts to 25 to 30 per cent of the total.

So when you hear the term "specialty contractor," may we ask that in our case you interpose the word "skilled" in front of it? We don't want to detract from any other valued member of the construction industry team, but in view of the size and qualifications of our contribution to the end result, we don't want to get lost in the specialty jungle, either.



## COLORADO PIPE TRADES INDUSTRY PROGRAM

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*From left to right: Bill Hawes, new President of CEC/Colorado, Representative Don Brotzman (R) of Colorado and Orley Phillips of the State Board.*

The Rites of Spring are many and varied. The young male is supposed to begin thinking about what the young female has had on her mind all winter, the baseball season opens and the swallows come back to Capistrano. In the architecture/construction community, the vernal equinox serves as the starting gun for the "meeting-go-round." The symposium, the forum, the seminar and the annual membership in-gathering is the order of the day.

If there could have been a musical background to the Consulting Engineers Council of Colorado Symposium on "The Municipality, The County, The State and the Engineer in Private Practice," it could have well been the strains of "Getting To Know You."

More than 100 consulting engineers and governmental people of all levels spent a full day getting acquainted, and if even all the verbiage were stripped away from the 23 or more presentations, the symposium was a great success in providing a springboard of empathy between all groups on which understanding will certainly grow.

Discussions progressed throughout the day in the meeting room, but of greater importance, engineers and government people continued their dialogues during coffee

ing or obligation that an architect or engineer should be retained merely because he lived within the borders of the state. But, with a confidence, based on the competitive free enterprise system and thousands of successfully completed projects, the consultants played heavily on the theme of "being considered."

Governmental people took the opportunity of spelling out problems on their various levels, educating the engineers; and by the same token, the engineers were able to educate the officials, even to such basics as "What is a consulting engineer?" "How does he operate?" "How is he retained?"

An unannounced banquet speaker was Representative Don Brotzman, who displayed a sharp interest in consulting engineers and their problems, noting the appearance of many Colorado consultants in Washington during a series of legislative conferences, participated in by CEC/Colorado members. The appearance of Representative Brotzman further illustrated the cumulative effects of the Colorado council's growing interest and activities in all phases of government.

Main banquet speaker was Gregg Potvin, chief council for

## *The Merry Meeting-Go-Round*

breaks, luncheon, dinner and the "Happy" hours.

It was not a one-sided conversation, by any means. While the consulting engineers told their story, and told it well, the mayors, city managers, county officials, state officials and legislators, showed no reluctance in questioning, probing and airing complaints.

Keynote for the symposium was sounded by Banker Neil Roberts, president of the Colorado Public Expenditures Council. He noted the consulting engineer and the public officials must reach an understanding of each other's problems so that Coloradans could achieve better government at less cost. To which consulting engineers heartily agreed, insisting the use of consultants in private practice, either engineers or architects, are, first, readily available in Colorado; and second, can accomplish design services at a tremendous savings to all branches of government.

Significant, as with the newly-organized Consulting Engineer-Architect committee (see March issue of *Symposia*), of all the engineering speakers appearing before the microphones, not even one even remotely suggested there should be any type of legislation requiring the use of in-state talent; in fact, there was not even a hint of tacit understand-

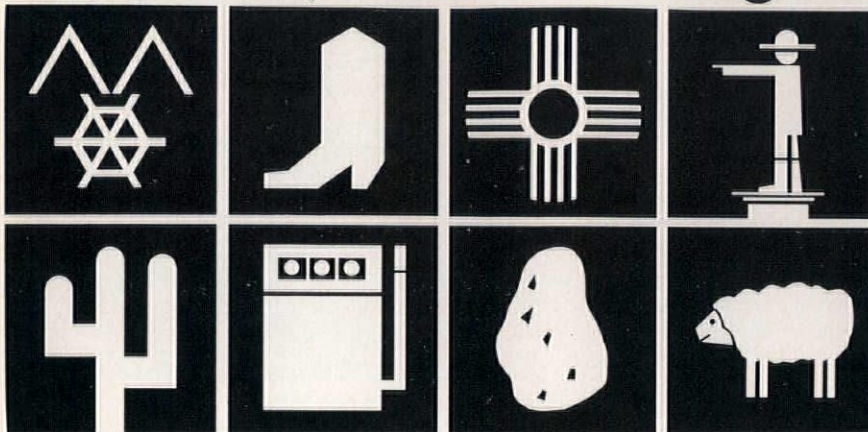
the Subcommittee on Regulatory & Enforcement Agencies of the Select Committee in Small Business. Potvin, pinching for his boss, Rep. John D. Dingell, clearly brought into focus the consulting engineer's role in society, he noted time and again the consultant was a vital factor of business, being a businessman, as well as a professional. Earlier, Arthur Krill, president of the Ken R. White Co., spoke on the "Engineer and His Community," noting the consultant's interest in his city, county and state and his devotion to serving in the public interest.

Chairman of the Symposium was Keith Hartzell, principal of Hartzell-Pfeifferberger & Associates.

James H. Konkel (McFall & Konkel), president of the CEC/Colorado, expressed pleasure at the symposium and its implications. He indicated more symposiums would be held, and regarded this first gathering as a "good start." As for the guests of the consultants, they were so intrigued with the dialogue and imbued with a desire to see it continued, invitations have come forth from both the Colorado Municipal League and the Colorado Association of City Managers, to "put the show on the road" and participate in upcoming conventions of the two groups.



# symposia/around the region



## arizona

### New Architectural Scholarship

A new, annual scholarship in architecture has been established at the University of Arizona in Tucson by the Horizon Land Corporation. The Horizon Land Corporation Scholarship will be awarded to an outstanding student as chosen by faculty recommendation. Horizon has also given the AU Architecture school a specialized cash design award deriving from a present fourth year class study of demographic trends. Still another cash allotment will go to equip the College of Architecture library with an adequate reference shelf on urban problems and the architect's role. In his presentation to the University, Horizon vice-president Jerry Berger, stated "Today's students of architecture are tomorrow's builders and planners, and they will be confronted with tremendous problems. Through these grants to the College of Architecture, Horizon hopes to provide aid and encouragement to talented students."

### CSI Mixer a Smash!

The Tucson-Phoenix Mixer held March 16th at the El Dorado Motel in Nogales has been pronounced an outstanding success. Twelve couples attended from Phoenix, eleven couples from Tucson, and as guests, one couple from Nogales. The Tucson Chapter extended a vote of thanks to Mac McClanahan and Charles Sewell, Co-Chairmen for the event. Next time around, the Phoenix Chapter will take over host-duties for the Mixer.

### New College for Navajo

Dr. Robert A. Roessel Jr., director of the Rough Rock Demonstration School, on the Navajo Reservation has revealed plans for a new community college. No location for the facility has been announced, but negotiations have been going on for the Many Farms High School presently nearing completion. Although

money has not yet been obtained for the planning grant, Dr. Roessel, believes it will be forthcoming shortly.

### Plans for National CSI

Both the Phoenix and Tucson Chapters of the Construction Specifications Institute are projecting plans for attendance en masse at the 12th Annual Convention in Denver in late May. Group rates are available from Frontier Airlines, and in the words of Tucson President, Russ Eley, "Maybe we can work a deal." The CSI/12 promises to be a most significant meeting for all CSI members in the region—and Symposia sincerely hopes the "deal" works out, and a host of Arizona members will be on hand—May 27-29.

### Phoenix/CSI Annual Banquet

The Phoenix Chapter/CSI has scheduled their Fourth Annual Awards Banquet for June 7th at the Saddleback Inn. Speaking of "deals"—here is a good one, Dinner, Dancing,

Awards and the total tab is a mere \$8.00 a couple. They should have a record turn-out for this one!

### Papago Project at U. of A.

Fifth year Architectural Students at the University of Arizona have just completed a unique experiment under the directorship of Professor Wayne Williams and with the assistance of the Papago Tribal Council. The project required students to become personally involved in the construction of architecture . . . gaining an experience not taught in the design lab. The ultimate goal was to derive from interview data, housing and social requirements which would interact with each other to propose the most practical and useful unit guidelines. One of the concrete results of the project was the production of a large model in relief of the entire reservation with indications of all Papago buildings included. This model was presented to the Tribal Council for their use in future planning.

### Landscape Architect Honored.

F. J. MacDonald, Landscape Architect, of Phoenix has received three awards from the Valley Beautiful Citizens Council, Inc. Mr. MacDonald was honored for three projects . . . Apache Wells Mobile Homes, Coulter Cadillac Resale Car Lot and an Industrial plant for Western Electric Company. Each year, the Valley Beautiful Citizens Council, Inc., a voluntary group, chooses the ten best designed and maintained projects in the Phoenix area with an eye to encouraging better landscaping. Mr. MacDonald is an International Director at Large of the American Institute of Landscape Architects.



Dean Sidney Little of the College of Architecture at the University of Arizona accepts the first check from Jerry Berger, Vice President of Horizon Land Company.



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## colorado

### AIA Fee Study

A committee formulated to analyze the cost of architectural services and fees in the Colorado area is now at work under the Chairmanship of Norton Polivnick. This study will relate to the national report prepared by Case and Company, Inc., San Francisco, management consultants. The Case report indicated that architects today are faced with a serious dilemma in several areas of prime importance, such as (1) the cost of architectural services has gone up sharply; (2) the profits of architectural firms have dropped from 22.6% of total gross receipts in 1950 to 9.2% in 1966; and (3) clients are demanding much more complicated and sophisticated services. The Colorado Chapter's fee schedule, based on percentages of construction costs, has not been revised since the 1952 level of building. The local chapter's Services and Fees Study Committee will attempt to update this schedule to a more realistic base of operation.



John L. Mason

### Contractors Honored

At the recent convention of the Associated General Contractors of America in Dallas, Texas, the Martin K. Eby Construction Company, Inc., of Englewood, received top safety honors.

John L. Mason, Vice President and General Manager of Eby Construction, as well as Colorado ABC President, accepted the Award at the huge Safety Awards Breakfast for the best 1-year record of all firms with fewer than 100,000 man hours of exposure.

Seventeen member firms of the ABC (Colorado's building Chapter of the AGC) also earned the distinction of having their companies labeled "Safety Certified" by the national organization



Planning another great year for CEC/Colorado—Past President James H. Konkel, standing, and newly installed President William H. Hawes.

### CEC/Colorado Annual Meeting

William H. Hawes, principal of Andersen, Koerwitz, and Hawes, took the reins this month as president of the Consulting Engineers Council of Colorado.

Hawes, who has served since last May as president-elect of CEC/Colorado, succeeds James H. Konkel (McFall and Konkel).

Also installed at the CEC/Colorado Annual Meeting on April 23 were Ken Wright, Wright Water Engineers, as president-elect. Wright will become president of the 77-firm, 100-member organization on May 1, 1969. Other officers elected during balloting last month were Fred Rink, (Swanson and Rink) vice-president; Sol Flax, (Sol Flax & Associates) secretary-treasurer; and William Clevenger, (Woodward-Clyde & Associates) national directors.

Elected to the Board were Olin Kalmbach, (Tipton & Kalmbach); Robert Nedell, (Nedell-Locke); and Robert Voiland, (Robert H. Voiland Consulting Engineer). These three will serve for two years. Still with one year remaining on the board are David E. Fleming, (David E. Fleming Consulting Engineers); and Edward R. Bierbach, (Edward R. Bierbach, Consulting Engineers).

Konkel remains on the board as an immediate past president. Continuing as executive director is Harvey A. Kadish.

### A Better Mousetrap?

Assistant Professor Michael R. Pease and his wife Sue have invented something for a child's room which bids fair to replace TV as a babysitter. The University of Colorado architectural faculty member calls it "A Child's Place," and it is at one and the same time—a fort, a ship, a play-



house, a school . . . in short, its uses are limited only by a child's imagination. Only in the model stage, Pease envisions the structure to be built from clear fir and plywood as about six and one-half feet by seven feet, and eight feet tall . . . it will have two levels and include colorful partitions. The young couple got their idea for a "Child's Place" watching their two daughters play with things like cardboard boxes. "We wanted," said Pease, "to develop an environment that would stimulate a child's imagination."

#### Named at Last

The Southeastern Section/AIA has done it at last, and we mean of course, naming the newsletter. It is called "Esquisse" which our trusty French dictionary tells us means sketch, outline, rough draft or plan. Tres juste, n'est ce pas? "Esquisse" reports at the April 10th section meeting at the Hackney House in Colorado Springs featured Mr. Gerald F. Kessler of the American Society of Landscape Architects, whose subject was "Planning Exterior Environment."

#### A Laurel

Certainly all AIA Members and perhaps others have seen the excellent new AIA Pub "Checklist for Cities." If the cover design looked familiar—it was! It was used originally as the logo of the WMR Conference "The Town Around Us" held last November in Colorado Springs . . . and as such appeared as the cover on November's Symposia. The laurel in this case is for the brow of Harry Pierceall—originator of the splendid design.

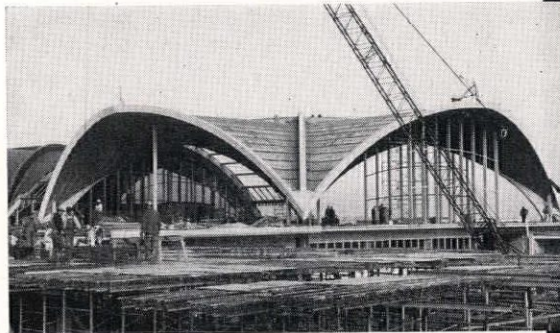
#### P. E. Members to Meet

The Professional Engineers of Colorado, representing about eight hundred registered professional engineers in the State have scheduled their annual meeting for June 14-15 in Durango. William J. Hanna, President of the organization has announced a stimulating program for the two-day meeting. The main theme, "Water" will be discussed at seminars on Friday, June 14. The Annual Banquet which will highlight the conference will have as a principal speaker, Mr. Elmo R. Morgan, P. E., Deputy Director, Saline Water Control of the Department of the Interior. The Durango meeting provides Colorado's Professional Engineers with a fine opportunity to combine professional activities with a family vacation . . . special cars, for instance, will be available on the Silverton Narrow Gauge train on Sunday following the two-day conference.

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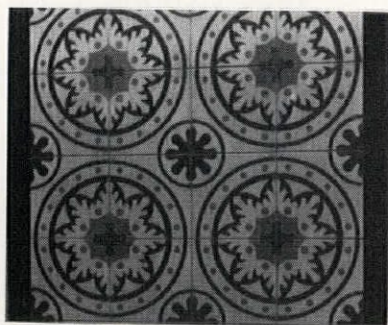


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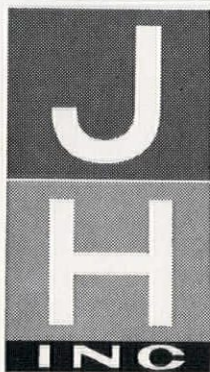
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Charles "Chief" Boyd  
Fisher Fellowship Winner

### "Chief" Returns

Speaker for the Annual Awards Banquet of the Colorado Chapter/AIA and the University of Colorado will be Charles "Chief" Boyd. "Chief", a 1964 graduate of the School of Architecture at C. U., was the first winner of the Arthur A. Fisher and Florence G. Fisher Traveling Scholarship Award at last year's Award Banquet. It seems altogether fitting and proper that he returns with a slide-illustrated report of his studies of Pre-Columbian architecture in Central America made possible by the Fisher Fellowship. The Banquet this year is scheduled for May 2—at the University Country Club on East Arapahoe in Boulder. Festivities begin at 6:30 with a social hour—dinner will follow at 7:30 p.m.

### montana

William D. Buckingham of Great Falls, Montana, has been awarded an undergraduate scholarship of \$600.00 from the Edward Langley Fund by the Boston Society of Architects/AIA. Young Mr. Buckingham is a student in the Graduate School of Design at Harvard University, Cambridge, Massachusetts.

### nevada

#### AGC/Nevada Directors

V. C. Mendenhall, a General Engineering Contractor from Las Vegas was reappointed National Director of the AGC for 1968 at the Annual Convention in Dallas. This is Mr. Mendenhall's fourth term as an appointed Director. E. W. McKensie, a General Building Contractor of Reno is completing his sixth year as a national AGC Director.

Nevada was well represented in Dallas . . . attending were National Directors, McKenzie and Mendenhall,

Vice-Presidents Claude Cook of Las Vegas and Tom Donnels of Reno; Past President Rodney Boudwin of Reno; James Teipner, Jr., Treasurer; Rowland Oakes, Secretary-Manager of the Reno office and David McCoy who manages the AGC office in Reno.

### Top Award for Nevada

The Nevada AGC Chapter placed first in the National AGC Public Relations Contest . . . the fourth annual such competition . . . with 135 Chapters throughout the United States in the running. President of the Nevada AGC, Robert L. Helms said that the Public Relations program of the Chapter was to, "give the public increasing knowledge of Nevada's Construction Industry; to increase the public's respect for the General Contractors; and to make the words, "Skill, Integrity and Responsibility," Synonymous with principles common to all AGC Contractors."

Mr. Helms praised the leadership of immediate Past President Everett Brunzell. The Public Relations Award was accepted at the 49th Annual AGC Convention by Rowland Oakes, Secretary-Manager of the Nevada Chapter.

### To Host Annual Meeting

Executive officers from 35 AGC Chapters will attend a Conference, hosted by the Nevada Chapter, at Lake Tahoe scheduled for June 13-15. The Conference will open with a reception on Thursday evening. Prominent speakers will address the sessions on Friday and Saturday mornings with panel discussions scheduled each afternoon. A golf tournament is projected for Sunday following the close of official business.

Usually held in Washington, D.C., the AGC Secretary-Managers living in the West get a break this time around.

### new mexico

#### AIA/Albuquerque Awards

The second Honor Awards Program (the first was in 1965) of the Albuquerque Chapter of the American Institute of Architects was held recently. Awards were presented to owners, contractors and architects for the following projects: **First Honor Awards** . . . 1) San Pedro Branch Library — John Reed, Architect — Sanders Construction Company, Contractor; 2) University of New Mexico Basketball Arena — Joe Boehning, Architect—K. L. House, Contractor. **Honor Awards** went to—1) Carl Paak, Residence—H. L. Barker, Architect—Homes by Marilyn, Contractor; 2) University of New Mexico Golf Clubhouse — John Reed, Architect and Weaver Construction, Contractor. **Awards of Merit**:—1) St. Anthony's Church — George Wright, Architect



and Styron Construction, Contractor; 2) Jim Williams Office Building—Joe Boehning, Architect—R. M. Swain and Son, Contractor; 3) Riley Residence—Robert Riley, Architect, and Stu Hill, Contractor; 4) Los Alamos County Courthouse—Flatow, Moore, Bryan and Fairburn, Architects—Franklin Construction, Contractor and 5) Robert Bowers Residence—John Varsa, Architect and Robert Bowers, Contractor. Chairman of the Awards Jury was Charles Moore, Chairman of the Department of Architecture at Yale University.

Symposia congrats are in order for all winners!

#### CSI/Annual Meeting

CSI Albuquerque members have pegged May 7 as Ladies Night. In addition to honoring the Distaff Side, the new officers will take over the reins. For 1968-69, the following gentlemen will serve the Chapter—Robert Schmidt, President; Stewart or Krauth—1st Vice President; Stanley Borthwick, 2nd Vice President; Earl Printz, Secretary; Connell, Treasurer; Directors for one year terms . . . Reed and Foard, and Director for two years . . . Sneddon or Campbell. The "or's" indicate two nominations for the same job, and the results were not in as Symposia went to press. All this will be remedied as of the June issue—plus, of course, the full names and numbers of all the players. Technical Director for the coming year is Dick Henderson.

#### New Mexico CIC

Under a directive from the State Legislature, public hearings on a Uniform Building Code and Rules and Regulations have been held. Construction Boards have also met during the month of April, and the Commission has scheduled a two-day session—April 25-26 to take any action indicated.

#### AGC Schedules Mid-Year

Hobbs, New Mexico has been selected as the site for the mid-year meeting of the New Mexico Building Branch of the Associated General Contractors. The June 8th meeting will focus on plans to solve the Industry's worsening man-power situation. AGC Manpower Chairman, F. H. Beinhauer states in a recent report . . . "The industry is experiencing one of the worst shortages of competent trades craftsmen in the history of the industry, and the shortage continues to grow at an alarming rate." In emphasizing the need for the New Mexico Chapter to thoroughly study the Manpower question at the Hobbs Meeting, Mr. Alva Coats, AGC Manager said—"New Mexico's construction industry management would welcome the opportunity of undertaking

the training of the 'hard core unemployed' under the Model Cities program and those individuals in minority and ethnic groups seriously and honestly seeking employment in the construction industry, provided we are permitted to do so free of the above problems."

The mid-year meeting will attempt to formulate plans for the New Mexico Building branch and its member contractors to supply additional manpower in the shortest time to the building construction industry.

#### Steel in the Sky

The month of April saw all of the structural steel in place for the now-building new Santa Fe Opera. Scheduled to be ready for the opening of the season early in July, McHugh and Kidder, Architects for the project have had to move right along. The old Opera was completely destroyed by fire last summer.

#### New Fee Schedule

The New Mexico Society of the American Institute of Architects has just adopted a new fee schedule for architectural services. Special fee-schedule programs have been presented to the three New Mexico Chapters during April, and copies have been distributed to all AIA members.

#### utah

##### New Officers for CSI

The April 16th meeting of the Salt Lake City Chapter of the Construction Specifications Institute put the gold seal of approval on the following slate of officers for the 1968-69 term—President, Cecil Holland; First Vice-President, Ron Simmons; Second Vice President, Peter Opperman; Secretary-Treasurer, Hal Harris and Director, Ted Heliotas. The new Salt Lake Roster shows a net gain of 11 members over last year. Congratulations, fellows, let's keep it growing!

#### Annual CEC/Utah Meeting

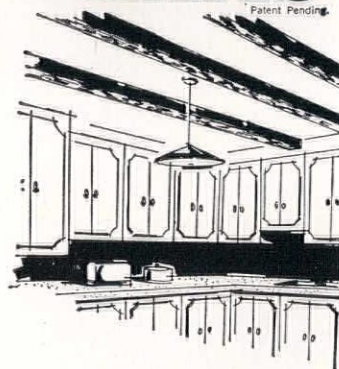
The Annual meeting of the Consulting Engineers Council of Utah was held April 26, 1968. This was a "best bib and tucker" affair with the wives as honored guests. The program included Awards presentations, the installation of officers and Congressman Laurence J. Burton (R) as the featured speaker of the evening. New officers for CEC/Utah are David H. Curtis, President; Clarence C. Bush, Vice President and President Elect Mark L. Brynner, Secretary-Treasurer and Charles V. King, National Director.

A special General Membership meeting was held on April 10 to deal with business matters—since no such mundane matters were on the agenda on April 26.



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Abe H. Feder  
Lighting Authority

## dialogues with light

A rare opportunity is being accorded the design professionals in Colorado and Utah this month of May. Abe H. Feder, eminent lighting authority, will conduct through the School of Architecture at both Colorado and Utah Universities—"Dialogues With Light"—four sessions of demonstration, exploration and conversation on the uses of light and the techniques and goals of lighting design. The program at Colorado University is scheduled for May 9 and 10; at Utah University on May 13, 14 and 15. Students will attend free of charge—and a token registration fee of \$1.00 will be charged others who wish to attend.

Starting out in the days when lighting was a matter of putting a bulb in a socket and turning it on, Mr. Abe Feder has created the profession of Lighting Design. He has not only developed techniques and tools for lighting, but has spent many years in spreading an awareness of light as a design material. He has spoken frequently before professional groups from every discipline and business organizations in every field. Through lectures and workshops at graduate schools throughout the country, he has searched out the surest means of bringing to people a clear concept of that most elusive of all materials . . . light, and of the role of lighting in our environment.

The four dialogues Mr. Feder will present are: "Light As a Spatial Material"—concentrating on the qualities of light . . . "The Uses of Light in Design"—centered on the use of light as a design material . . . "Lighting the Outdoors" will apply lighting techniques to areas where there is no black box with ceiling and walls, but only infinite blackness. The final dialogue, "Lighting the Forms Designed for Our Environment," will be used to delineate light to reveal forms . . . the individuality of each visualization will be imposed by form and need. Having begun with the general implications of light and lighting, Mr. Feder will conclude his dialogues with specific applications.

A noted expert in stage lighting ("My Fair Lady," "Camelot," and open stage productions such as "Blues for Mr. Charlie"), Abe Feder never brings the theatrical out of the theatre, believing we light the stage for illusion—the world around us for truth. His architectural lighting achievements include the United Nations Building, Rockefeller Plaza, the Gallery of Modern Art, the Pan-Am Building, the Harvard Law School Library, Buckminster Fuller's geodesic dome in Baton Rouge, and an infinite number of other projects. He is presently working on the John F. Kennedy Center for the Performing Arts in Washington, D.C. Every design professional knows the value of the continuing education process . . . and certainly "Dialogues in Light" provides a great opportunity for learning new and exciting professional techniques. Symposia urges attendance at these sessions . . . May 9 and 10 at the University of Colorado in Boulder; May 13, 14 and 15 at the University of Utah in Salt Lake. Complete information may be obtained by calling the Schools of Architecture at the Universities.

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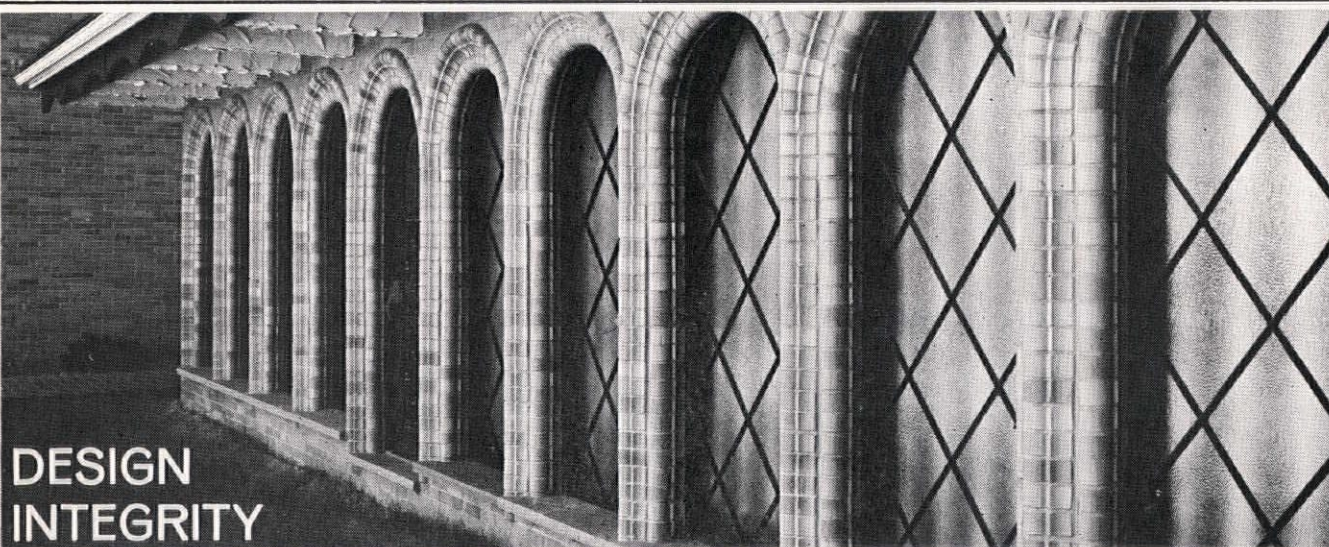
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# Memo...



**NOTE:** If you are not "among those present" in this month's Memo, simply forward your meeting dates to us as near the 10th of the preceding month as possible. We hope Memo helps you to be where you should be . . . when. The Symposia address: 4070 Estes Street, Wheat Ridge, Colorado 80033.

## REGIONAL EVENTS

**MAY 6-9:** Consulting Engineers Council/USA—12th Annual Meeting, Management Conference and Exhibit. Statler-Hilton Hotel, New York City.

**MAY 12-17:** National Association Physical Plant Administrators—55th Annual Convention. Broadmoor Hotel and Convention Center, Colorado Springs, Colorado.

**MAY 27-29:** Construction Specifications Institute—12th Annual Convention and Exhibit. Denver-Hilton Hotel and Denver Convention Center, Denver, Colorado.

## ARIZONA

**MAY 6:** American Institute of Architects/Southern Arizona Chapter and the University of Arizona—Annual Awards Program. Buffet, Awards—Speaker: Louis Kahn.

**MAY 6:** Construction Specifications Institute/Tucson — Board Meeting. Casa Molina-Broadway.

**MAY 15:** Construction Specifications Institute/Phoenix — Regular Meeting—Cocktails: 6:30, Dinner: 7:30 p.m. ABC Club.

**MAY 24:** Construction Specifications Institute/Tucson — Regular Meeting—Cocktails: 6:30, Dinner: 7:30 p.m. Redwood Gay Nineties. (Reservations: Bob Entekin—622-7621.)

**DON'T FORGET**—JUNE 7th is the date for the CSI/Phoenix Chapter 4th Annual Dinner and Dance. Cocktails: 6:30—Dinner: 7:30—Dancing: 9:00 p.m. Saddleback Inn. (\$8.00 per couple.)

## COLORADO

**MAY 2:** American Institute of Architects/University of Colorado—Annual Awards Banquet. Social Hour: 6:30—Dinner: 7:30 p.m.—University Country Club (East Arapahoe)—Boulder.

**MAY 3:** Association of Remodeling Contractors/Board of Directors. Dinner: 6:30 p.m.—Four Winds Motor Hotel.

**MAY 7:** Consulting Engineers Council/Colorado — Directors meeting. Cocktails: 6:00—Dinner: 6:30 p.m.—Denver Press Club (All members are invited and urged to attend Board Meetings. For reservations: telephone before noon of previous day—244-4717).

**MAY 7:** Producers' Council/Informational Meeting — Formica—Noon at Hyatt House.

**MAY 8:** Construction Specifications Institute — Regular Membership Meeting—Cocktails: 6:00—Dinner: 6:30—meeting: 7:30 p.m. Engineer's Club Building, 1380 South Santa Fe Drive.

**MAY 9:** Mechanical Contractors Association — Luncheon meeting 12 noon—New Plumbing Showcase, 2727 West 6th Avenue.

**MAY 9:** Colorado Pipe Trades Industry Program/Board of Trustees. 4:00 p.m.—New Plumbing Showcase.

**MAY 9 and 10:** "Dialogues With Light" with Lighting Designer, Abe Feder, Boulder Campus, University of Colorado—4 sessions.

**MAY 14:** Of Special Interest to All Members of the Architecture/Construction Community — Seminar on the Construction Practices Council of New Mexico—9:00 a.m.—Broadmoor Hotel, Colorado Springs.

**MAY 14:** Associated Building Contractors of Colorado, Inc. (AGC) Combined Membership Meeting (Regular, Affiliated and Associated) 6:30; Social Hour—7:30 p.m. Dinner. Speaker: Dr. Charles Karsakoff, Lunar Scientist. Grand Ballroom, Brown Palace Hotel.

**MAY 14:** Architectural Secretaries Association/Regular Membership Dinner Meeting.

**MAY 14:** Colorado Association of Mason Contractors/Membership Meeting—6:00 p.m.—Engineer's Club Building.

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**MAY 15:** American Institute of Architects/Colorado South-eastern Section—Executive Board: 4:30—Cocktails: 6:30—Dinner: 7:30. Place? They move every month so your guess is as good as Symposia's.

**MAY 15:** Women in Construction/Metropolitan Denver Chapter. Regular Membership Meeting—Slide Presentation on Denver Convention Center and Exhibit Building, Dayl Larson, Architect. Raffle. Cocktails: 6:00—Dinner: 6:30 p.m. Ranch Manor, 1490 South Santa Fe Drive.

**THE WEEK OF MAY 20TH:** Producers' Council/Satellite Meetings.

Team I (Bill Dingler) Grand Junction.

Team II (Don Wakefield) Fort Collins and Greeley.

Team III (Roland Proett) Boulder.

Team IV (Joe Cullen) Colorado Springs.

**MAY 20:** Associated Building Contractors of Colorado, Inc. (AGC) Colorado Springs Area. Dinner Meeting; 6:30 p.m. Dublin House, North Academy Boulevard, Colorado Springs.

**MAY 27:** Associated Building Contractors of Colorado (AGC) Executive Board Meeting—Luncheon—12:00 noon—Engineer's Club Building.

**MAY 28:** American Society of Architectural Hardware Consultants/Denver Chapter. Dinner meeting: 6:00 p.m. Speaker: National First Vice President: Thomas A. Morris. Cherry Creek Inn.

**MAY 28:** Consulting Engineers Council/Colorado. General Membership Meeting. Cocktails: 5:30—Dinner: 6:30 p.m. Denver Press Club.

**MAY 29:** Mountain States Bureau for Lathing and Plastering/Board of Governors. 10:00 a.m.—221 Santa Fe Drive, Denver.

## NEW MEXICO

**MAY 1:** Construction Specifications Institute/Albuquerque Workshop Seminar—Division 9: FINISHES—Division 12: FURNISHINGS. 4:00-6:00 p.m. Hospitality Room First National Bank, East.

**MAY 7:** Construction Specifications Institute/Albuquerque. Annual Meeting—Ladies Night and Installation of new Officers. Happy Hour: 5:30—Dinner: 6:30—Program: 7:30 p.m. Sundowner Motel.

**MAY 8:** New Mexico Building Branch/Associated General

Contractors Membership Meeting—6:30 p.m.—Albuquerque Sunport.

**MAY 8:** Construction Specifications Institute/Albuquerque Workshop Seminar—Division 10: SPECIALTIES, Division 11: EQUIPMENT, Division 14: CONVEYING SYSTEMS. 4:00-6:00 p.m.—Hospitality Room, First National Bank, East.

**MAY 9:** American Institute of Architects/Santa Fe Chapter. Regular Luncheon Meeting—Noon—Palace Restaurant.

**MAY 14:** American Institute of Architects/Albuquerque Chapter. Regular Monthly Meeting—7:30 p.m.—Department of Architecture, University of New Mexico.

**MAY 15:** Construction Specifications Institute/Albuquerque Workshop Seminar—Division 15: MECHANICAL—4:00-6:00 p.m. Hospitality Room, First National Bank, East.

**MAY 22:** Consulting Engineers Council—New Mexico — Board of Directors: 11:30 a.m.—General Membership: 12 noon Luncheon—Eby's Restaurant, 6804 Menaul Boulevard, N.E. (Across from Coronado Shopping Center) Albuquerque.

**MAY 22:** Construction Specifications Institute/Albuquerque Workshop Seminar—Division 16: ELECTRICAL—Hospitality Room, First National Bank, East. (Note: The Concluding Session of the Workshop Seminar originally scheduled for May 29th will be postponed because of the 12th Annual CSI Convention in Denver).

## UTAH

**MAY 7:** Consulting Engineers Council/Utah—Executive Board Meeting—NOON—Ambassador Club.

**MAY 7:** Construction Specifications Institute/Salt Lake City Chapter. Board Meeting—Ambassador Club.

**MAY 13, 14, 15:** "Dialogues With Light" with Lighting Designer, Abe Feder/School of Architecture, University of Utah, Salt Lake City—Four sessions.

**MAY 15:** Consulting Engineers Council/Utah—Regular Membership Meeting—Noon—Oak Room of the Ambassador Club.

**MAY 18:** Construction Specifications Institute/Salt Lake City. Regular Membership Meeting. Social Hour: 6:30—Dinner: 7:00—Meeting: 8:00 p.m.—The World Motel, 1900 South State Street.

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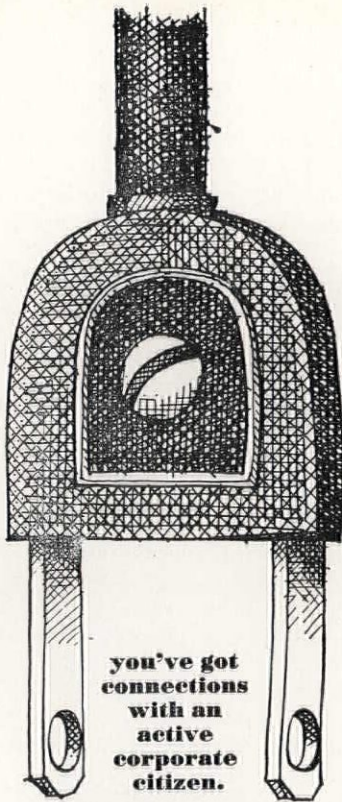


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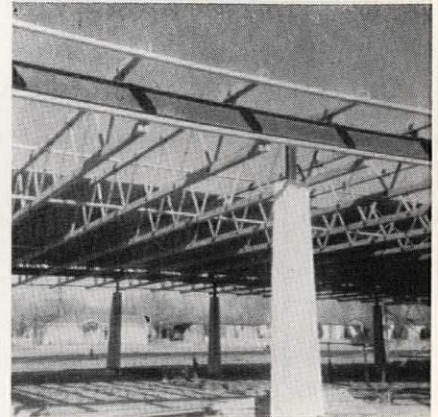
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GRANITE LINE MODULAR ROLLING CASEWORK



## GRANITE LINE MODULAR ROLLING CASEWORK

The Granite-Line Rolling Casework provides a functional method capable of first-modular storage and second-space division for the progressive teaching methods of today's modern schools. Other requirements such as utility, flexibility, durability, and design have been engineered into one size to meet basic storage requirements.

Cabinets are designed with one unitized case with an exterior perimeter metal frame unit.

Removability of all exterior and interior components and flexibility within the case provide for current needs and any future new functions that may develop. This eliminates obsolescence of equipment and enables the school district to change teaching methods without being limited to physical surroundings.

The use of one frame reduces inventory of parts and lets each school make maximum use of the units they have. As demands vary, units can easily be transferred to other areas, uses, and even other schools.

The standardization of all components that make up five different combinations of cases can be stored and moved inside of one frame. This permits on-the-site storage during temporary usage changes.

The standardization of all components permits the owner to inventory some parts so that changes in usage can be made on very short notice; i.e., a classroom can be changed to a library when the student load permits.

The vertical adjustability allows the units to be functional for kindergarten through college.

### FRAME

Permanent tubular steel provides lifetime rigidity requiring no tightening.

Sufficient weight to provide stability even unloaded.

Slotted vertical corner members provide door and accessory attachments.

All exposed edges and corners are steel for maximum resistance to damage.

Frame enameled any color to harmonize or contrast with setting, as desired.

Raised perimeter at top provides storage and permits cases to be locked together for semi-permanent locations.

Unique top design enables vertical attachment of auxiliary storage units.

Large five-inch-diameter locking castors with a 1½" wide nonmarring tread, welded to frame, provide ease of movement and positioning with a minimum of carpet nap marks.

### CASE BODY — EXTERIOR

Top and bottom panels ¾" thick high-density overlay plywood.

End panels are removable ¾" plywood with high-pressure laminate chalkboard on exterior and high-density overlay on interior. (Porcelain enamel chalkboard or tackboard surface available if specified.)

Removable back panel is surfaced on the interior with high-density overlay and on the exterior with chalkboard high-pressure laminate. This back panel also serves as interior partition and is furnished with high-density overlay finish

when ordered as an interior partition. (Porcelain enamel chalkboard surface or tackboard surface also available if specified.)

### CASE BODY — INTERIOR

Partitions and shelves are surfaced with high-density overlay both sides.

Teacher's desk unit and drawer unit are surfaced top and front with high-pressure plastic laminate. These units are adjustable for height to suit user.

Partitions are easily removed. Vertical edges are banded with plastic tee edging.

All shelves are adjustable at 2½" on center. Shelves furnished with standard plastic edge banding all four edges or a tag moulding on the two-face edges only.

Shelves are supported with heavy-duty shelf clips.

All current and future functions are designed for ease of assembly and complete adjustability to enable the case to serve a variety of needs.

### ACCESSORIES

Doors are surfaced both faces with chalkboard high-pressure laminate. (Porcelain steel chalkboard also available if specified.)

Door hinges enable the doors to be mounted on either face of the case, with no attachments visible when doors are not used. Doors are removable and remountable.

Door edges are banded with plastic edge banding, with corners slightly rounded.

Projection screen can be mounted on either face of frame at any location up to 84 inches. Surface of projection screen is white chalkboard high-pressure plastic laminate.

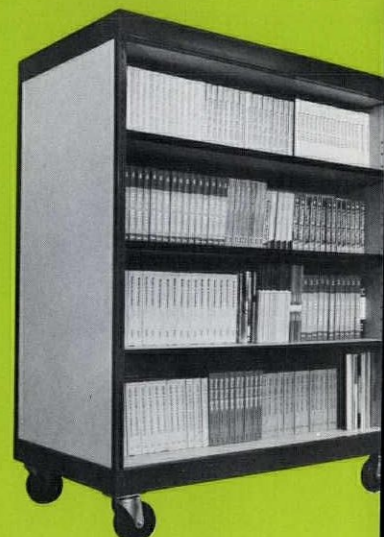
Miscellaneous items, such as chalktrays, paint pot trays, auxiliary coat hook rails, chart rails, are easily attached to either frame face and any height position.

Miscellaneous items can be stored on the frame itself or in the top recess of the unit.

New accessories as may be conceived by user can be made and easily attached to the frame.



#385 Teacher wardrobe



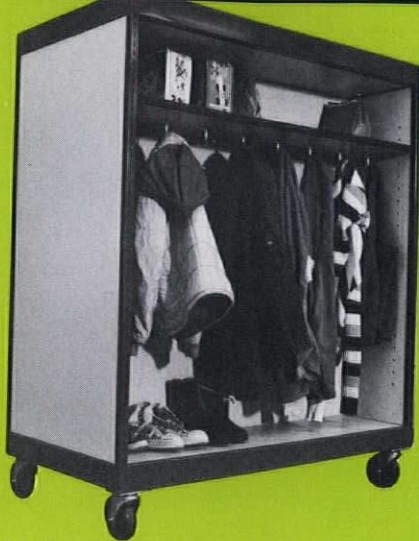
#387 Bookcase storage with sides.  
Available in combination with wardrobe



#389 General storage



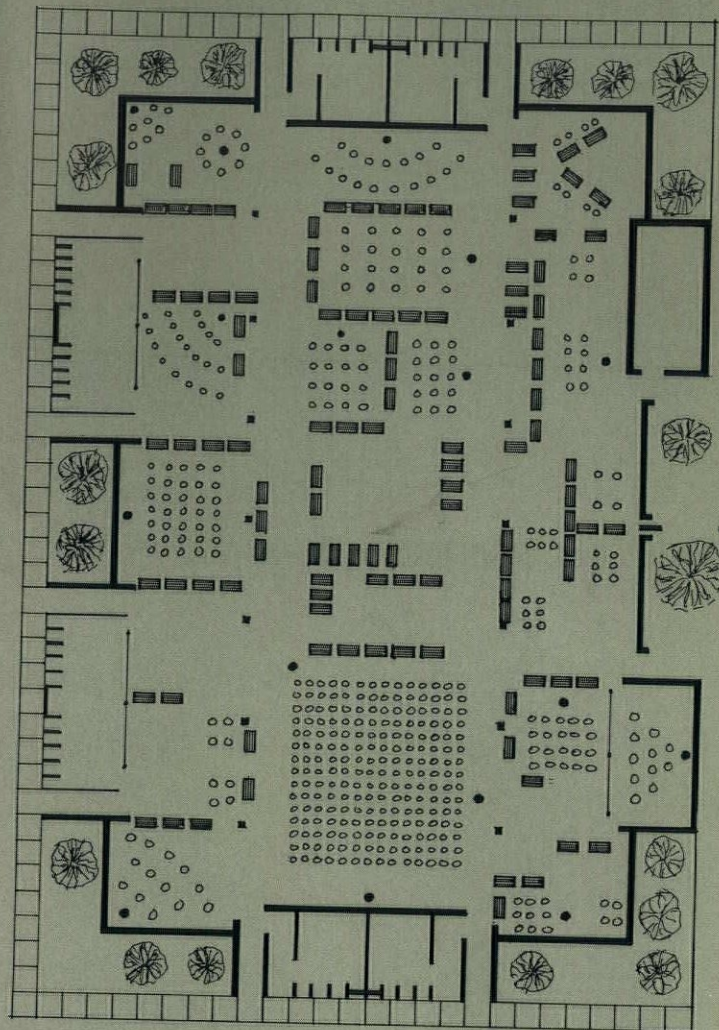




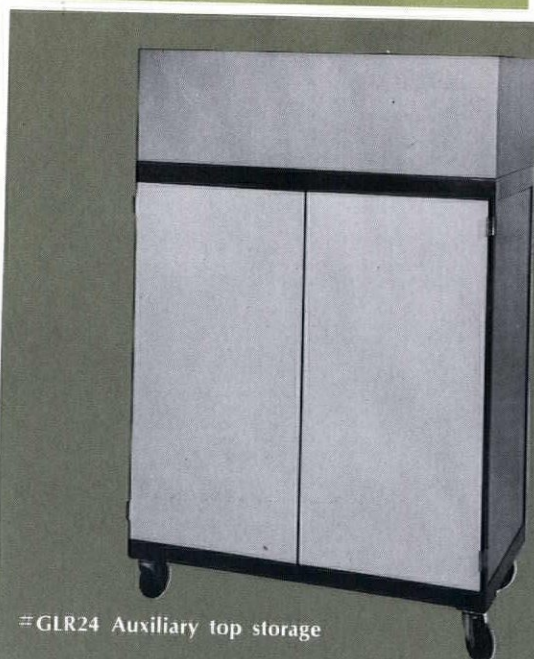
#386 Student wardrobe, both sides.  
Available in combination with bookcase or tote tray  
storage on other side



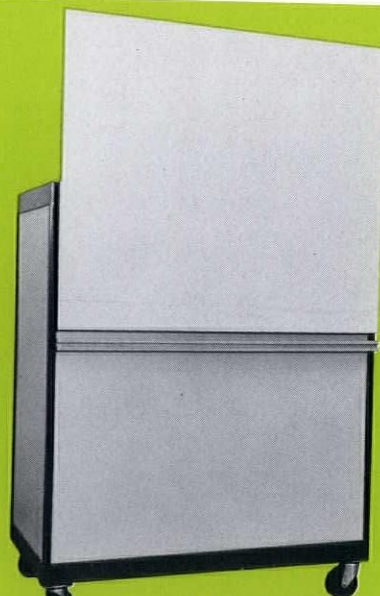
#388 Tote tray storage, both sides.  
Available in combination with wardrobe and bookcase



Typical school plan using  
Granite Line rolling casework



#GLR24 Auxiliary top storage



#GLR26 Projection screen and  
chart rail = GLR28



ACCESSORY NUMBERS		GLR-11	GLR-12	GLR-13	GLR-14	GLR-15	GLR-16	GLR-17	GLR-18	GLR-19	GLR-20	GLR-21	GLR-22	GLR-23	GLR-24	GLR-25	GLR-26	GLR-27	GLR-28	GLR-29	GLR-30	PRICE
NO.	DESCRIPTION	DOORS	TEACHER'S DESK	TEACHER'S DRAWER UNIT	DIVISION PARTITION	SHELF 2-0 x 2-6	SHELF 1-0 x 2-0	SHELF 1-0 x 4-0	SHELF 2-0 x 4-0	COAT SHELF 1-0 x 4-0	SMALL TOTE TRAY	LARGE TOTE TRAY	PARTITION 4-0 x 4-0	BACK PANNEL 4-0 x 4-0	AUXILIARY TOP A	AUXILIARY TOP B	PROJECTION SCREEN	CHALK TRAY	MAP RAIL	COAT HOOK RAIL	PAINT JAR TRAY	
385	TEACHER WARDROBE	○	●	●	●	●	●							●	○	○	●	○	○	○	○	
386	STUDENT WARDROBE	○								●				●	○	○						
387	BOOKCASE	○						●							○	○						
388	TOTE TRAY	○									○	○		●	○	○	○	○	○	○	○	
389	GENERAL STORAGE	○						●		●				●	○	○						
390	STUDENT WARDROBE & BOOKCASE COMBINATION	○						●		●	●	●	●		○	○						
391	STUDENT WARDROBE & TOTE TRAY COMBINATION	○						●		●	●	●	●		○	○						
392	BOOKCASE & TOTE TRAY COMBINATION	○						●		●	●	●	●		○	○						
ACCESSORY COST																						

## SPECIFICATIONS

### Scope

Base bid shall include furnishing and setting in place complete and assembled ready-for-use Granite-Line Rolling Casework Units as shown on the drawings and specified herein.

All case numbers as shown on the drawings are as manufactured by Granite Mill & Fixture Company, Salt Lake City, Utah. Other suppliers desiring approval must submit a full-size sample 10 days prior to bid opening, showing all components for the five required cases, and must bid as a substitution.

### Guarantee

All units and components shall be guaranteed against defective materials and workmanship for one year after acceptance by the owner.

### Quantities

Quantity requirements are as herein listed. Supplier is to submit unit prices for each different case for possible adjustment in quantities by owner.

- \_\_\_\_\_ No. 385 — Teacher wardrobe storage unit.
- \_\_\_\_\_ No. 386 — Student wardrobe unit
- \_\_\_\_\_ No. 387 — Bookcase storage unit.
- \_\_\_\_\_ No. 388 — Tote tray storage unit.
- \_\_\_\_\_ No. 389 — General storage unit.
- \_\_\_\_\_ No. 390 — Student wardrobe and bookcase combination unit
- \_\_\_\_\_ No. 391 — Student wardrobe and tote tray storage combination unit.
- \_\_\_\_\_ No. 392 — Bookcase and tote tray storage combination unit.

(List accessories as owner desires)

**Construction** — All cases shall be movable on 5-inch swivel roller bearing nonmarring locking casters with

1½-inch tread. Cases shall consist of one integral welded steel frame with interchangeable and removable exterior and interior parts. All cases shall be of the same height, depth, and width. Units shall be incapable of tipping over under normal use.

**Frame** — Frame shall consist of tubular steel welded and ground into one integral unit for rigidity and support. Frame finished in enamel color as selected (or nickel plated if specified). Swivel casters 5" diameter by 1½" shall be permanently welded to frame. Frame so constructed to receive necessary component parts for each desired unit. Interchangeability of all parts, both exterior and interior, required.

**Exterior Panels** — All exterior panels shall be ¾"-thick fir plywood, with exterior face of vertical panels laminated with 1/32" high-pressure plastic laminate chalkboard. Interior face of vertical panels to be covered with a high-density plastic-type overlay. Both surfaces of top and bottom panels to have high-density plastic overlay. (Porcelain steel chalkboard or tackboard available if so specified.)

**Interior Partitions and Shelves** — Interior partitions and shelves to be of fir plywood ¾" thick for partitions and shelves under 36" long — 1" thick for shelves 36" and longer. Both surfaces covered with high-density plastic overlay. All edges of shelves shall be banded with reagent resistant plastic tee edging, except for bookcase and tote tray shelves, which shall have a special name plate edging on face edges only. All shelves shall be adjustable. Coat hook shelf shall also have name plate edging on face edges and have eight double coat hooks attached to each shelf.

**Doors** — Furnish doors on general storage units only. Doors shall be constructed with ½ inch 40 lb. particle board core with high pressure plastic laminate chalk board laminated to both faces. Edges shall be banded with a high density plastic tee edging. Doors shall swing 270 degrees on hinge. (Porcelain steel chalk board surface available if so specified.)

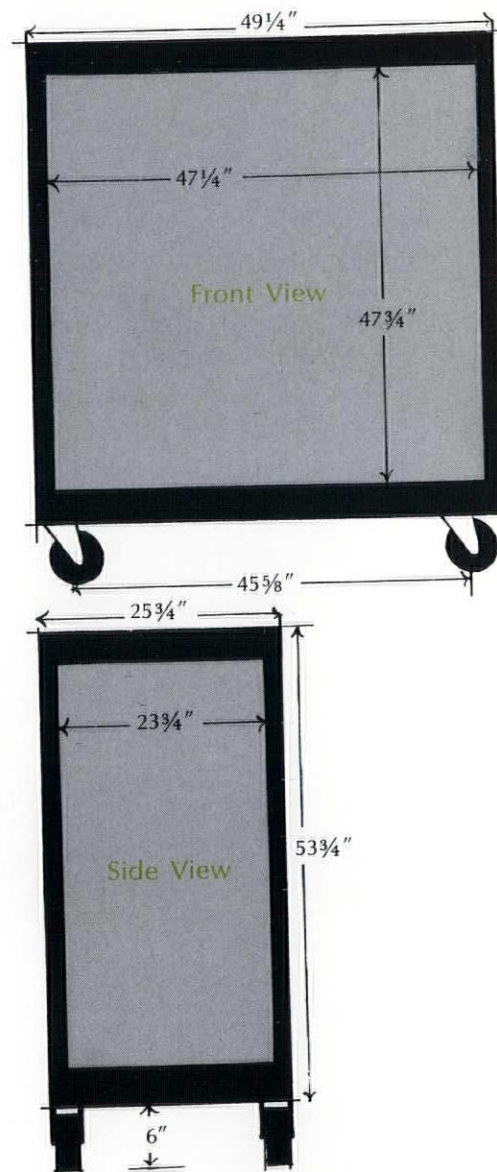
**Teacher Storage Unit, No. 385** — Teacher storage unit to be supplied with four adjustable shelves, two partitions, one drawer unit, and one pull-out desk.

**Student Wardrobe Storage Unit, No. 386** — Student wardrobe storage unit to be supplied with one center divider partition and two coat hook shelves.

**Bookcase Storage Unit, No. 387** — Bookcase storage unit to be supplied with one center divider partition and six adjustable shelves.

**Tote Tray Storage Unit, No. 388** — Tote tray storage unit shall be supplied with one center divider partition and eight adjustable shelves. Supply with 60 tote trays — 30 small and 30 large.

**General Storage Unit, No. 389** — General storage unit shall be supplied with four adjustable full-depth shelves and one pair of doors.

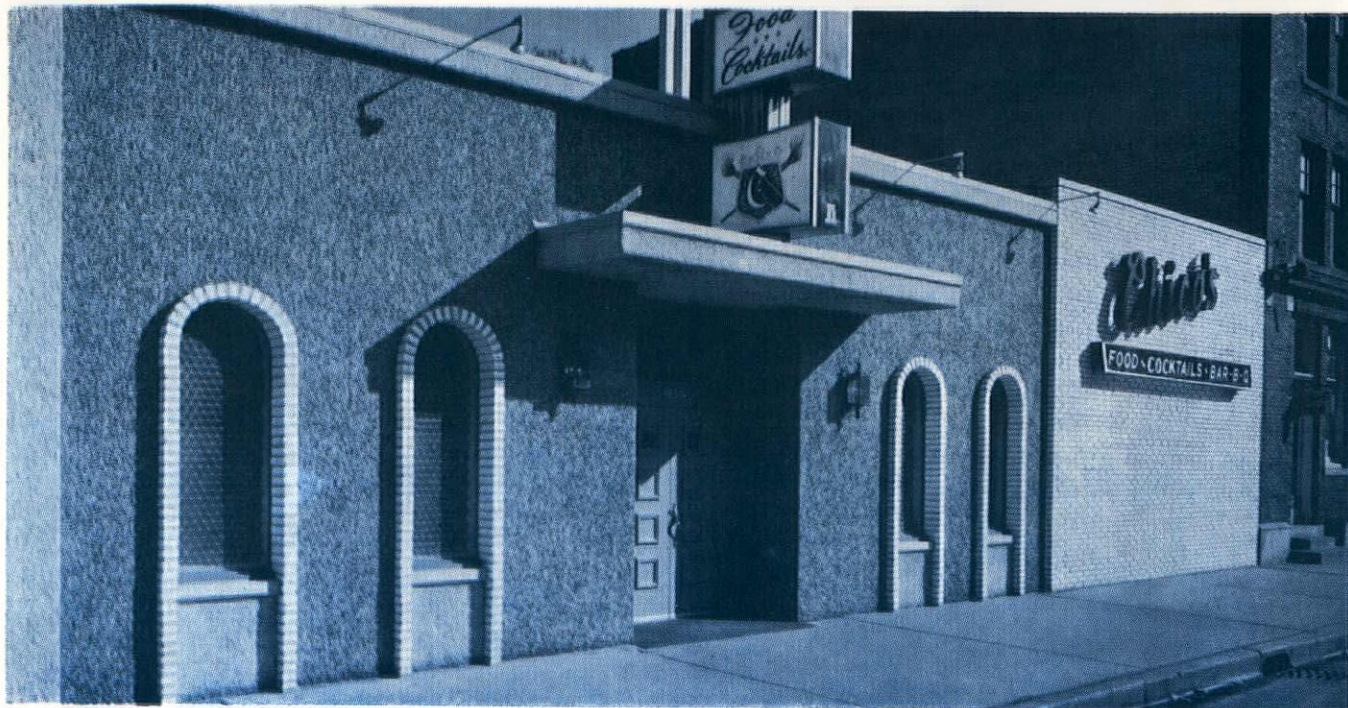
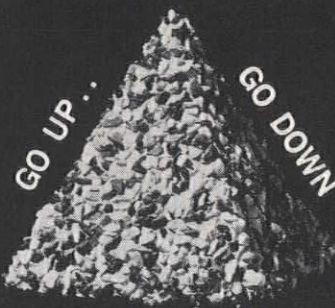




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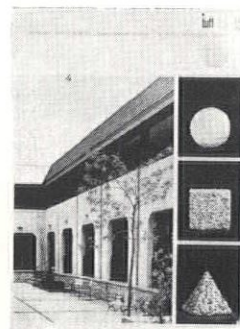
Tuff-Lite® gives older buildings a new lease on life. Gives them a personality that can be strikingly bold, bright and interesting, distinctively different. Tuff-Lite®, an epoxy-based matrix, is ideal for refurbishing older buildings in yet another way. It is so lightweight—actually eight times lighter than concrete—it eliminates the need for structural reinforcement in old buildings and special load-bearing design considerations in new buildings.

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